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Original Department.

[Reprinted from Transactions of Michigan State Medical Society.]

Medical Education of the People Their Best Safeguard.

By Thomas N. Reynolds, M. D., Detroit, Mich.*

IN view of the fact that there is still in the world the most extraordinary misconception with regard to the true functions of medicines and medical men, it may not seem wholly unfit that we should somewhat briefly advert to it here.

As it existed among the people in earlier times, it amuses us now perhaps more than it surprises us; and when we recognize it still here and there among those in lowly favored circumstances of life, it usually makes little or no impression upon us; but when we so often see it among the refined and cultured of our time we are sometimes led to inquire why it is. But this misconception is not confined entirely to the laity or to the crude charlatan, but more or less pervades the educated and legitimate medical fraternity itself; and it is no uncommon thing to see among the younger members of our profession men confidently attributing to medicines particular cures that they never produced. And even the older practitioners, with quite an abiding faith, sometimes prescribe remedies that serve little more than to mutually satisfy the mind of the patient and the doctor that the necessary and essential thing has been done in the premises.

This undue credit to the effect of the drugs prescribed, when it occurs among medical men, probably arises mostly from the habit and routine of always prescribing in certain approved manners in certain kinds of cases; and when improvement takes place, forgetting to allow sufficiently for the healing power of time and nature herself.

As it occurs in the masses of the laity, however, when they throw themselves unreservedly upon the mercies of some of the many artful imposters of the day, or, almost regardless of the man, cling to some of the schools of medicine or forms of treatment with an ardor that often amounts to fanaticism, it seems to arise from the fact that there is still in man an inherent tendency to rely alone on some mysterious or supernatural intervention in behalf of his physical as well as his spiritual welfare. Men in a great measure seem not ready to act upon the idea that while there

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may occur at times special and supernatural intervention in behalf of our spiritual welfare, it is nevertheless probable that the greatest amount of mental enjoyment is only obtained by the greatest amount of willing obedience to those social and moral laws of life which produce it. So with regard to our physical being, men largely rely upon medical aid and supernatural protection, and neglect to observe and conform to those natural laws which regulate and govern the functions of our organism in health and in disease.

With medical men the hope to at last hit upon the lucky remedy or successful plan has in all ages led to the adoption, at times, of many absurd modes of treatment that have been discarded after more careful observation and riper experience—sometimes to excessive dosing and too heroic treatment; and sometimes to the other extreme, as in the high dilutions once generally indorsed and still sometimes used by some of those who pursue what is called the homœopathic plan.

When, then, there are in the minds of those who devote themselves specially to the science and practice of medicine so many absurd notions with regard to it, and so much faith in much of it that is not warranted in fact, it is not a wonder that the masses, and even the educated portions of the laity, should treat us now and then, as they do, to such sublime exhibitions of their faith in some particular drug, plan of treatment, or school of medicine, while they evince often only very little knowledge or concern as to the proficiency or character of the man himself prescribing it.

As nothing but hard-learned experience and frequently disappointed hopes in his scientific prescriptions will ever thoroughly convince the young practitioner of their frequent inutility, so nothing but the proper kind of education on these matters will ever convince the people of their frequent too great confidence in the efficacy of drugs alone.

To this end, the study of anatomy, physiology, hygiene, and particularly the laws of life, with the influence thereon of habits, conditions and surroundings, should enter largely into, and be assiduously carried all the way through the education of the young, even if it be to the exclusion of almost no matter what other branch besides. And if the use of drugs be referred to at all in their education, it should be with an especial care that they be taught the facts as they are—that the essential and useful drugs are really few and their administration rarely necessary; that in the aggregate in the world it is probable enough that more harm is being yearly done by their indiscriminate and unskilled use than there is good by their timely and judicious employment.

Physicians can do much more than is usually done in this direction by their individual influence in practice. Each physician should constantly endeavor to establish in the minds of his patrons the fact that they should seek intelligent opinions and skilled advice more than prescriptions. And even at an occasional risk of losing patronage, when medicine is not required at all, he should dare to say so, and give the right advice instead. Doctors should be educators more than physic-mongers. Whatever time the occasion demands should be taken to fully explain the trouble for which persons present themselves, and the best regulation of living to be adopted under the circumstances; and for this opinion and advice alone, when kindly given, they should and generally will expect to pay.

Physicians should endeavor at all times to divest their practice of every appearance of mystery; and in this connection they should certainly abolish the common practice of retiring from the family and holding private conversation after having seen a patient in consultation. They should rather insist on some members of the family or persons most concerned being present when conversation may not advantageously be had with the patient; otherwise such mysterious movements and awe-inspiring manners tend not at all to enlighten, but very much to becloud the minds of many people, and leave them a more ready prey to the quack, who can as well, and always does with effect imitate those and all kindred mysterious ceremonies.

Physicians can with the utmost politeness to each other and the very kindest consideration for the opinions of each, discuss conditions and agree on treatment in the presence of some of those concerned; and it is the people's right to see and know exactly what their physician thinks and does in their case either alone or in consultation.

If imposition and quackery are ever removed or lessened at all, it will be in exact proportion to the amount of correct information and thorough enlightenment the people may obtain on this entire subject, for it can never avail very much that a few educated and honorable practitioners labor to bring the comparative few whom they reach up to a reasonable and correct estimation of the practice of medicine, while the masses remain unable to discriminate between the imaginary and what is real in it, or between the artful and unscrupulous pretender and the genuine medical man. As long as there is a general and popular demand for the different forms of quackery, there will always be found an ample supply; and legislation, though necessary and good as far as it goes, can never entirely prevent it. The early and continued education of each individual on the subject is the only successful remedy.

And since none can see and feel as well as physicians the need of the people with regard to it, it becomes us and would seem our direct and humane duty to interfere, and move to the extent of our opportunity in establishing if possible somewhat of a medical education in all the common schools throughout the country. This is perfectly practicable, and probably would be nowhere unfavorably received.

Let the people become properly and generally enlightened on the medical subject, and we will not see them cajoled and carried away with extravagant advertisements and pretentious modes of cure, not even hear them ask much more concerning a physician: "Is he a homeopath or an allopath?" but only hear them inquire of him, as they should of one assuming that capacity: "Is he simply an educated, trained, ingenious, industrious, and in every way competent and upright medical man?"

The Opium Habit.

By Edwin B. Allen, M. D., Washington, D. C.

FREQUENTLY during the course of the opium or morphia, but more particularly the former habit, the patient is liable to be attacked by a peculiar form of intermittent fever, very much resembling the fever which was common in the Southern States about the year 1827, called the Dengue. Like that fever it is attended with violent pains in the limbs, particularly in the joints, which is of a most intolerable character, while the surface of the body is covered with a miliary eruption.

When the hand is removed from the surface there is a burning sensation remaining in the tips of the fingers, very much like that produced by some forms of typhoid.

About a year ago I attended a case of this kind. The patient, a gentleman of fifty, had been a confirmed opium eater for about eight years. He allowed himself two drachms of the solid gum opium in twelve grain pills in twelve hours of the twenty-four. He had made repeated efforts to abandon the habit, but as all attempts were unsuccessful and were all attended with so much bodily suffering that he had long since abandoned himself to what he called a moderate indulgence in the habit. Fearful of some accident, he had instructed his wife that in case of delirium she was to inform his medical attendant of the habit, but if not, the latter was to make the discovery himself. As my patient was a stranger to me I knew, of course, nothing of this circumstance.

When I first saw him my attention was called at once to the dysphonia nervosa, and in all of those cases this symptom will invariably attract the attention of the physician. It seems actually impossible for the patient to remain in one position for a fraction of a second.

This, together with the peculiar appearance of the gum, the shattered pulse, the contracted pupil, hardly required the whiff of the heavily opium-laden breath to convince me that I had a case of opium eating.

I asked him how long he had been eating opium, what doses he had taken and how long since he had had a dose?

He was somewhat surprised at what he considered my penetration, but he answered me promptly and truthfully. He said that he had been in the habit of taking two drachms in the course of twenty-four hours for the last eight years. That when he had consumed this amount he felt very comfortable. That the only inconvenience from which he suffered was a long continued and a most indomitable constipation, which was exceedingly difficult to remove even by the use of strong cathartics. He attributes his present attack to this torpid condition of the bowels. He said that when he had taken his full allowance of the drug that he was in his normal state. He was neither exhilarated nor stupefied, and so far as he knew, his mental faculties were not influenced in the slightest degree by the medicine. It was only when he attempted to abstain from its use that he awoke the slumbering demand, he then discovered that he was bound in the thrall of opium. If he omitted to take it one day, his sleep that night would be more profuse than usual, but he would awaken in the morning unrefreshed and without appetite; his skin would be bedewed with a cold perspiration, and he would suffer from an indescribable sense of great wretchedness and an incessant restlessness. While he would be too much exhausted to go about, it seemed impossible to lie still. He was incessantly changing his position. As soon as he was upon his back, he felt that he must get upon his side, only to lie for a second, when he would be forced to turn upon his stomach. He said that he was satisfied that when this restlessness seized he never remained in one position more than a second. The second night's slumber would be more profound than the preceding one, and upon the second day of abstinence the most intolerable suffering would commence. He would be assailed with the most excruciating agony in the bony structure, and especially the joints. The bowels which had been so long inactive would suddenly reassume their functions and the acrid fæces would excoriate the entire alimentary tract. The eyes and nose would constantly discharge a thin and apparently corrosive mucus. There would be a constant but ineffectual attempt to vomit. Of course if any water or other liquids were taken to appease the thirst, it would be immediately rejected. The semen would be passed involuntarily, and sudden flushes of heat would cover the surface with a moisture which an equally sudden flush of cold would convert into a cold perspiration, and he would feel as if his heart were chilled. He would feel as if a delirium were approaching and he hailed unconsciousness as a blessed relief.

Genuine typhomania was present from the first. When intending to say one thing he would generally say something else, entirely different, and only discover it when he had finished the sentence. It was always a matter of great surprise to him how such ideas got into his head. While perhaps he could enunciate words perfectly he appeared to have no control over his tongue. For instance, once when intending to ask for a glass of water, he said, without ever thinking of England or America, "If England again attacks America, America will beat her much more severely than ever." He did not discover what he was saying until he had said it. The words apparently came upon his tongue without passing through his mind. Every articulation of the vertebral column, every joint of the legs and feet, arms and hands, head and ribs was the source of a separate and independent point of pain. Every nerve was capable of transmitting its own thrills of pain to the already agonized brain. The throbbing temples, the burning head, the aching bones, the violent struggle for breath all combined to present a picture which appalled even the experienced medical mind, and which drove the sympathizing friends and acquaintances in horror from the room. It was impossible to conjecture how this state of things would terminate. The only relief to be looked for was from opium. No effect could be perceived from the first large dose, but after the second one had been taken a profound calm would ensue. Flashes of light would appear before the eyes as the system absorbed the powerful drug, and its influence would be felt in

the most remote parts of the organization. The throbbing temples and agonized brain would be quieted like magic; a dull headache would take its place. The breath would come first in fitful gasps, then a few prolonged inspirations would follow, filling the entire cavity of the lungs. The alysmus would give way to a quiet inaction. Instead of typhomania, a vigorous but saddened and rather melancholy train of thoughts would pass through the mind of the patient. The last disagreeable symptom to yield to the beneficent influence of the potent drug would be the severe pain in the bones. And this painful sensation would perhaps continue for some days, even under the influence of increased doses, for it was generally found that augmented doses were invariably the result of all attempts to resist. This will be found to be the general experience of the opium eater.

My patient had taken his usual allowance before he called me in. The fever was then very high. The tongue covered with a thick fur. No motion from the bowels for several days; urgent thirst; severe headache; considerable gastric distress, attended with some pain and soreness in the abdominal regions. Severe pains in the bones, especially the bones of the limbs and back. Tinnitus arium was so considerable as to cause him great annoyance. The entire trunk was covered thick with a crop of transparent red vesicles, about the size of a millet seed. The legs by patches of much larger pimples, from which, as they had itched him very much, he had torn off the tops with his nails. There was a sour odor perceptible about his person, as if he had been sweating profusely.

I inquired if he had lessened the quantity of the drug and I learned that he had that morning taken as much as he usually consumed, but that it had had no apparent effect. I asked him if he could detect any difference between that which he had taken and that which he had been accustomed to. He said that upon the present occasion he had been using a new lot, but he could perceive no difference, either by the appearance, taste or smell, but that his sensations were something like those produced by two days of abstinence.

As he had some of the drug on hand I examined it, and the microscope showed that it was of an inferior quality and considerably damaged withal. It was musty and emitted a sour and more disagreeable smell than opium usually exhales. Fermentation had taken place. and this process had produced a chemical change in the drug whereby the morphia had been destroyed.

I immediately gave pulv. ipecac, gr. xx, followed by a draught of warm water. This brought up a quantity of a dark green slimy fluid. Then

℞ Ext. colocynth comp., gr. xx.
Ext. jalapæ, gr. vi.
Pulv. scammoni comp.
Hydrarg. chlor. mit, gr. x.
Antim. et pot. tart., gr. i.
Saponis venet, gr. v.
Ol. carui., gtt. iv.

M. Ft. into pill, xv. Sig. Three at once and to be repeated in twelve hours if they fail to act.

I then gave an enema in which small quantities of lard had been dissolved.

The injection brought away small quantities of scyballæ. He then took several doses of the liq. opii sed., at short intervals. The next morning the fever had subsided, and he declared that he never felt better in his life. There was no necessity for repeating the purgative, as the three pills had produced a large, copious and very offensive stool.

As I was anxious that he should abandon the injurious habit I accepted the following plan:

℞ Pulv. opii, ʒ ij
Fel. bov. inspiss, ϑ ij
Sodii bicarb., ʒ ss.

M. Ft. mass et div. in pil. xij. Sig. One every hour.*

I directed him to take his first pill at 9 A. M., this would enable him to take his last one at 9 P. M. The next day he was to take his first pill at 10 A. M., and the last dose for the night at 9 P. M., this would leave one pill not taken. The day after the first dose was to be taken at 11 A. M., and the last at 9 P. M. as usual, this would leave two pills reserved. This I kept up until I had reduced him to one pill of ten grains, at 9 o'clock P. M. The beef gall prevented the astringent action of the opium and produced a good stool daily, with the exception of one day and then I gave him two of the cathartic pills. The soda neutralized the acid which abounded in the stomach.

I gave him during the treatment four grains of the sulphate of quinia and two grains of the sulphate of cinchona made into pills three times a day. He reduced his allowance to ten grains, with the greatest ease comparatively; his appetite was prodigious and he improved in flesh in the most surprising manner. I continued the ten grains at night for about six nights, and this I reduced grain by grain, until I ceased altogether. When I stopped the opium I gave him fluid extract of piscidia erythrina, prepared, I believe, by Parke, Davis & Co. This I continued for about a week, when he threw it aside himself having, as he said, no longer need of any drug. He stopped the quinine pill at the same time with the opium. This has now been about eight months and he has never resumed the use of opium, and as far as I know has had no desire to again use the drug.

1,506, 34th street.

A Chemical and Microscopical Examination of Cheken Leaves.

By Jno. Hoehn.†

SUMMARY of results.‡

	% OF DRUG.
Moisture	9.48
Total ash	9.48
Sol. in H_2O { K Cl, K_2SO_4	.68
Insol. in H_2O / Sol. in HCl { BASIS. Mg, Ca, Al; ACIDS. H_3PO_4, H_2CO_3	5.61

*The quantity of opium in this pill is sufficient to excite a suspicion that the author has unconsciously made an error.—Ed.

† An Abstract from Graduation thesis, University of Michigan.

‡ In this work I followed Mr. H. B. Parson's scheme for Plant Analysis, as being more simple than that by Wittstein and Rochleder.

Insol. in H_2O		
" " HCl	Combined	
Sol. in NaOH	Silica	2.45
Insol. in H_2O		
" " HCl	Sand and Clay.	
" "NaOH		.73

Est. of Benzole extract. % OF DRUG.

Total Benzole extract	8.74
Volatile oil	3.7
Sol. in H_2O	.5
Organic matter	.35
Ash	.14

Had negative results for organic acids and alkaloidal re-agents, except Phosmolybdic acid, which gave me a light green coloration, but on the addition of ammonia turned a darker green, followed by a prec., coming down rapidly on the application of heat. But got a test for glucoside as follows: By heating the sol. with a few drops of H_2SO_4 for 10 minutes, neutralizing with NaOH, then adding Fehling's sol. and heating 5 minutes. The Cupric salt being then reduced to Cu_2O.

Organic matter and ash soluble in Water		11.63

The alcohol extracts tannin and other organic acids, extractives, the remaining alkaloids, glucosides and resins. Not having a Gooch's filter, I discontinued the est. of the alcohol extract, but est. the tannin according to a method given in the Chemical News, Vol. XXIX, page 189, and obtained 4.2%

% OF DRUG.

Total cold water ext.	Gums and dextrin	3.9
Ash		1.05
Starch from acid extract		6.85

The remainder, being albuminous substances and cellulose amounting to 48.17

I also obtained a greenish colored resinoid in the same manner that resin of podophyllin is obtained from the alcoholic extract of podophyllum.

I also think that the antiseptic properties of the drug are due the volatile oil, which I think is an aldehyde, being changed to an acid on oxidation. I will try and prove by further experiment.

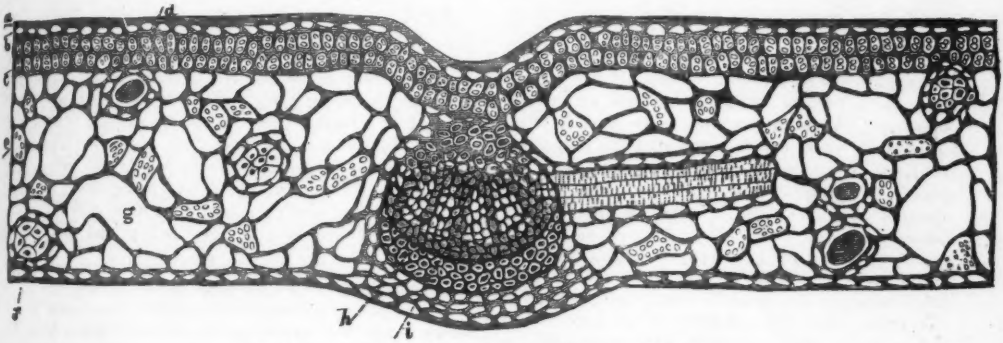

FIG. A. A CROSS SECTION ACROSS THE MIDRIB.

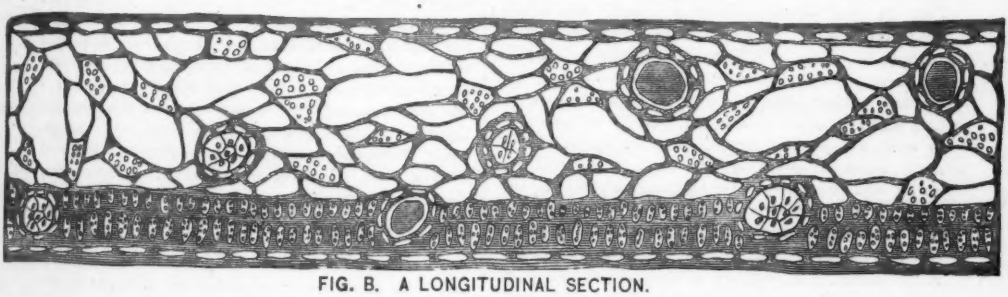

FIG. B. A LONGITUDINAL SECTION.

% OF DRUG.

Insol. in H_2O		
Sol. in HCl		.45

The same results as in the H_2O sol.

Insol. in H_2O		
" " HCl	Chlorophyll and	
" " 80% alcohol	resins	2.08
Insol. in H_2O		
" " HCl	Wax and fixed	
" " 80% alcohol	oils	1.89

Est. of alcohol extract.

Total alcohol ext.	22.86
Powder separated on cooling	2.96
Ash from ext.	2.47
" insol. in H_2O	1.02
Organic matter insol. in H_2O	7.25

MICROSCOPICAL EXAMINATION.

The upper side of the leaf is depressed at the midrib, and the under side elevated. The epidermis is composed of thick walled empty cells and a thick cuticle. Next come two rows of palisade cells filled with starch and chlorophyll. Between the palisade cells and lower epidermis are thick walled parenchyma. Among this there are oil and resin cells and intercellular spaces. The resin cells seem to have a cellular structure. The midrib is composed of three zones; the upper and lower zones made up of bast-fibre, and the middle one of wood prosenchyma. In the drawing I have represented a branch of the midrib composed of reticulated vessels. The only difference between the

cross and longitudinal is the elongation of cells in the longitudinal section.

a.—Cuticle.
b.—Epidermal cells.
c.—Palisade "
d.—Oil "
e.—Parenchyma cells.
f.—Resin "
g.—Intercellular spaces.
h.—Bast fibre.
i.—Woody prosenchyma.

Sassafras in Poisoning by Rhus Toxicodendron.

By R. L. Hinton, M. D., Prescott, Arkansas.

IN the June number of the THERAPEUTIC GAZETTE it is asked by J. M. Haralson, M. D., of Missouri, "Will some contributor give through the columns of the GAZETTE, the best remedies as antidotes to the poison of rhus toxicodendron, especially some one who has himself been poisoned by coming in contact with the leaves or vine?" When my eye fell upon the above I felt as though the doctor had said to me "Thou art the man," and so I proceed to state as best I can from memory: About 16 or 18 years ago, in West Tennessee, where I had commenced the practice of medicine, I suppose I came in contact with the leaves or branches of this vine while riding through the woods, or it may be that I only passed near it, while wet with dew or from a shower. It was in the month of August, and as I suffer very severely in the summer months from heat, breaking out with a rash very similar to that from poison oak, causing me to scratch and rub a good deal, especially after undressing at night, before I became aware of it I had a good case of this poison, covering nearly my entire body and limbs. I first used simple remedies, such as solution of common salt, the acetate of lead, etc., but these seemed to have no effect, the disease making steady progress from bad to worse, and finding myself unable to attend to practice, or even to wear clothing except the simplest kind of night dress, if anything at all, I, of course, was under the necessity of confining myself to my room, and had plenty of leisure to attend to my own case, which I did, using in turn all the remedies I had at command, with the assistance of Dr. J. D. Smith, a thoroughly accomplished physician, and at that time my partner—a man older than myself in the practice and of large experience. I don't think I was benefitted by any of the treatment, but suffered much of the time more from the remedies than the disease, which continued unabated till fall, when it naturally disappeared, to return the following season. It was a settled fact then that it would return year after year till finally it would wear itself out. The common people have an idea that its limit is 7 years, coupled I suppose with the common saying, "seven years' itch." About settled in this faith myself, I was trying to feel as much resigned as possible to my sad fate, and await with patience for the time of my final deliverance from this demon of misery and wretchedness. But my friends, the common people, and more especially the knowing ones among the old women, would come in with their sympathy, every one of course offering an unfailing remedy, affording a strong temptation for a man in my condition, notwithstanding all my professional pride, to enter the broad field of empiricism. Among these remedies was mentioned the oil of sassafras. Some how the common people have great faith in this oil. It enters into nearly all their nostrums, whether for internal or external use, and somehow, I do not remember why now, I concluded to give it a trial. But finding I had none, and could not conveniently get it, being shut off from the drug market by the blockade in that memorable time of unpleasantness between the states, I concluded I would try a decoction of the root, or perhaps it might with more propriety be called an infusion. I do not remember seeing it mentioned in the books, but it is generally understood among the populace that there are two distinct varieties of sassafras, viz.: the red and the white, the former always preferred because much stronger as they say. There are either two varieties, or else the difference of location, soil, etc., makes it appear so. I am inclined to the former opinion. Let this be as it may, I sent out for a supply of the red sassafras root, had a strong infusion made, which I used cold, applied by covering the inflamed surface with cloths wet in it. At this time the rash had appeared almost as extensively as in the preceding year, and to my great annoyance was in my mouth, nose and eyes, and very thick over my face, then covered with a very heavy and long beard.

I buried my face in a large basin of the cold infusion, my mouth and eyes open, and I shall never forget the sensation it produced upon the mucous membrane of the mouth—a crisped or drawn feeling like that of a burn. I began this treatment in the afternoon, and kept it up through the night, applying the cloths wet as often as I would awake. I do not remember dipping the face in the basin but the one time; am certain I did not after night. To my astonishment and delight the next morning I found the rash had entirely disappeared, and I have never been troubled with it since. I have from that date never prescribed anything else for this poison. I have done a practice which naturally would (as it has) include quite a number of cases; as many perhaps as that of any other physician for the same length of time, and I have had aggravated cases brought to me from outside of my practice, and never in a single instance has the result been less satisfactory than that of my own case. Could I diagnose every disease that human flesh is heir to, with the same certainty that I can this, and had I as sure a remedy for each, the practice of medicine would be with me reduced to a dead certainty. There would be no more deaths, except from senile decay. I have in some aggravated cases advised the infusion taken, say one teacupful warm, three times a day, but do not insist that there is even any advantage in this, for I look upon this, as upon many other of the skin diseases, as purely local. I also prescribe a saline laxative when the bowels are constipated.

I hope my professional brethren will not criticise this hastily written article harshly, till they have

given this treatment a fair trial. I am sure they will find it useful not only in this, but also in many other skin diseases. I know I have not exaggerated or "overdrawn the picture." I am no clamorer for new remedies, and am never hasty to laud them. I am not in the habit of writing for publication; lay no claims to being a writer; make no pretentions in this direction. I state this to forestall all criticisms on this score.

Toxicological Effects of Poison Oak.

By D. E. Smith, M. D., Brooklyn, N. Y.

IN the June number of the GAZETTE, Dr. Haralson, of Slagle, Mo., asks for some information relative to the "best remedies as antidotes to the poison of rhus toxicodendron." He also says that he "should like to hear from some one who has himself been poisoned by coming in contact with the leaves or vine." Well, I am his man, having been in that condition three different times.

There are three forms of rhus that are poisonous, viz.: rhus radicans, rhus toxicodendron and rhus venenata. The first is known by the common names of poison vine and poison ivy. It has a climbing stem about half an inch in diameter and often reaches the height of 20 to 30 feet, clinging to trees, rocks, etc. The second or rhus tox. is known as poison oak and is a creeping shrub from one to three feet in height, the bark being a brownish-gray. Rhus venenata, or rhus venix, as some botanists call it, is a small tree from 10 to 30 feet in height with a trunk from 2 to 6 inches in diameter. This variety is known as poison wood, poison sumac, poison ash, etc. The medicinal properties of all are similar and the peculiar form of the vesicle produced by the poisoning of each is very much alike.

My first experience with this poison was at the renowned watering place, Martha's Vineyard, Mass., while spending my vacation during the summer months of 1870. Several cases of poisoning by rhus toxicodendron which occurred simultaneously, came under my treatment, and I myself was among the number poisoned. Again in 1879 while summering at Shelter Island, N. Y., I was in the woods with some friends on a botanical excursion, and had with me a small hatchet which I had casually picked up before leaving the house.

While rambling through the woods, my eye rested on a cluster of vines of rhus rad., adhering to a large tree. Involuntarily I raised my right hand, in which I held the hatchet, determined to destroy the vine by severing the stem from the root. I knew the great danger of meddling with it, and yet forgot that I was so susceptible to its poisonous influence. The wind was blowing at this time toward me, and the poisonous air from the severed vine passed up the sleeve of my right arm. I thought no more of the circumstance at the time, but a few days subsequently my arm began to swell, and smart, and burn, and itch, and twenty-four hours later it had more the appearance of confluent small-pox, only the vesicles were not so large, than anything I could compare it to, and the itching was unendurable. My face also was badly swollen, with several of the peculiar vesicles on it.

My last personal experience with rhus poisoning was in the month of September, 1880, while making some tincture of the dry leaves of rhus tox. On loosening the cork to allow the tincture to percolate through, some of the fluid came in contact with my fingers and poisoned them severely. They were swollen and inflamed, with the peculiar vesicles and severe itching which always accompany poisoning by this vine.

But now, Mr. Editor, as I did not propose to write an essay, but only answer the doctor's inquiry, we will proceed to the more practical part and give the information desired by Dr. Haralson. The first thing to be done in a case of poisoning by rhus tox. or rhus rad., in order to cure the patient in a short time, will be to cover the parts with bicarbonate of soda in powder or a saturated solution. This process is imperative as the vesicles contain an acid named by Prof. J. M. Maisch "toxicodendric acid." By the action of the alkali, this acid will be neutralized or destroyed. After a few applications of the soda I use the following as a wash:

℞ Zinci sulphatis, 3 v.
Aquæ, Oi.

M. Sig. Apply to the parts every one or two hours.

In nine cases out of ten this course will cure the patient in 36 to 48 hours, and it sometimes does so in 24 hours. Prof. McDowell recommends a solution of caustic potash, sufficiently strong to render the skin soapy, in cases of poisoning by rhus tox. He states that it invariably cures. I have no doubt of it because it neutralizes the toxicodendric acid and the *vis medicatrix naturæ* soon cures. "Remove the cause and the effect ceases." Tinct. gelsemium applied to the parts three times daily is said to promptly relieve the severe itching, but I have never tried it. A tea made from the bark of sassafras root is a good auxiliary to drink as an alterative.

Verbena Urticifolia.

By Wm. E. Walker, M. D., Reidville, S. C.

CASE 1. Was called to Mrs. A., æt. 29, on the 25th of February, 1882, with third child. Labor easy and natural. Patient did well until the 29th, when the lochial discharges became arrested, all domestic remedies were tried but proved of no benefit. I was called in on the 1st of March, found patient suffering with severe headache, fever, and accelerated pulse, commenced to administer an infusion in two drachm doses every half hour. By the time third dose was taken, with hot applications to lower extremities and over the region of the womb, she complained of feeling very warm, administered three more doses and to my surprise, patient declared she felt much better and informed me, in three hours after first dose was administered, that the discharges were set up again. Above symptoms subsided at once, and patient did well. Tried Squibb's fluid extract ergot combined with other oxytocics before I administered above infusion.

Case 2. Was called to Mrs. C., æt. 33, on the 20th of April, 1882. Found her in labor, case pro-

gressing very slow for some five or six hours after which the pains ceased altogether, then I administered one ounce Squibb's fluid extract ergot, which proved of no benefit. Then administered fifteen grains chloral hydrate and proceeded home for a tincture that I had prepared. On returning found patient much revived and respiring very easy. Commenced to administer the tincture in two drachm doses every half hour with warm applications to lower extremities and over the region of the womb. Patient commenced to complain of being too hot and perspired very freely. By the time she had taken four doses pains began to set up, and by the time the sixth dose was given pains became prominent and labor was soon completed. Patient soon recovered from her confinement.

Case 3. Was consulted by Mrs. C., on the 28th of April, 1882, in regard to her daughter æt. 19, of anæmic appearance, for a well developed case of amenorrhœa—had not menstruated for five months and suffering with symptoms belonging to the anæmic type.

First put her upon an iron tonic, which I kept up for thirty days, and finding patient considerably better I then ordered her to take her bed, began to administer the tincture v. urticifolia in three drachm doses with the hot applications; ordered the tincture to be given every hour until I called again, which was in twenty-four hours, when I found patient a little prostrated by the excessive sweating, but advised her mother to continue the treatment through the night, and that I would call the next morning. On my arrival I was informed that the patient's discharges were set up about three o'clock A. M.; found patient in good spirits but suffering with some abdominal pains which subsided in eight or ten hours. Menstruation was sufficient and she has been regular ever since. Have kept up the tonic treatment up to this time, but I shall stop it as I hardly think it necessary to continue it any longer.

Have treated one case of menorrhagia which had resisted all other treatment with this tincture and found it to control the case.

I have got other physicians experimenting with this weed and will soon begin to get reports, which I will forward to you.

Have used lippia Mexicana in a case of bronchitis and found it to control the case when other remedies had failed.

Angina Pectoris Successfully Treated With Nitro-Glycerine.

By O. C. Farquhar, M. D., Zanesville, O.

MRS. F., æt. 42, well nourished, and of good physique, apparently a healthy woman, was the subject of regular and severe attacks of angina pectoris. At first the attacks came on irregularly, mostly at night, and always after midnight. After continuing for several months in that manner, the paroxysms being at first two or three months apart, they became more frequent, and during the year of 1882, in March, April and May, the attacks came on regularly every morning between two and six o'clock, causing the most violent and excruciating pain imaginable. During the beginning of the attack, when the paroxysms were irregular, the opiates, bromide of potassium, single and combined with chloral hydrate, were freely used with but temporary benefit. Quinia and opiates were likewise used persistently and in varied doses, with anything but satisfactory results. In fact, the materia medica was well nigh exhausted of its neurotic remedies in this case without affording the relief sought. The case continued under strict and persistent treatment, for nearly a whole year, and no permanent benefit was ever obtained until the administration of nitro-glycerine was begun. Having procured two hundred of Parke, Davis & Co.'s 1-25 of grain pills of nitro-glycerine, I began their administration, giving one every four hours. In about nine days after the administration of the pills, loss of vision supervened, pain and fullness in the head were complained of, weakness of the lower limbs, and an intense susceptibility to noise was annoyingly present. An omission of the remedy for five or six days brought relief from all of these unpleasant symptoms. The remedy was then again taken up and prescribed one pill three times daily, and whenever the unpleasant visual troubles manifested the remedy was either dropped in the middle of the day, or missed altogether until the following day, when it was ordered resumed. It is now six weeks since the pills were begun, and there has not since been an attack of this troublesome disease. After the pronounced specific effects of the drug were first manifest upon the nervous centres, as evidenced by the symptoms before indicated, every vestige of the heretofore troublesome angina vanished almost as by magic. There may be others who have as obstinate a case as I have just detailed, and I feel safe in recommending the nitro-glycerine pills manufactured by Parke, Davis & Co., as the remedy they are looking for.

Translations.

[This department is devoted to translations from our foreign exchanges, and will embrace articles from some of the best German, French, Spanish, and Italian writers.]

The Poisonous Effects of Chinese Anise. (Illicium Religiosum, Siebold.)

Five children from two to eight years of age were found in Tokio in the year 1880 in an insensible condition, in convulsions and foaming at the mouth. Three of the children died in this condition three hours later. In two of the cases vomiting had taken place; in the vomited masses seed of stellated anise were found. Similar seed were found in the pockets of one of the children. The author has convinced himself by means of experiments that all parts of this tree (Illic. relig., Siebold), bark of trunk, roots, bark of roots, are poisonous. The author experimented for the most part with an efficacious extract obtained from the roots, and describes at length the action of this alkaline extract on frogs, cats, rabbits and dogs. Briefly given, the symptoms are as follows: In every instance convulsions follow and are attributable, as the author fully showed on frogs, to an irritation of centres lying in the medulla ob-

longata. Small doses produce death by causing a paralysis of the respiration, large doses produce rapidly paralysis of the heart. He found that chloral hydrate overcame the tendency to a lethal excitation in the case of small doses of the extract; in large doses it proved of no avail. Illicium anisitum, Lureiro, in extract acts in a similar manner to the Chinese anise; quantitatively, however, its poisonous effect is much weaker.—A. Langgaard, *Virchow's Arch.*, lxxxvi., p. 222.

Ficus Doliaria (Gamelleira), Its Therapeutic Action and its Digestive Properties.

Gamelleira is a plant belonging to the order of Urticaceæ, and growing throughout Brazil. Incisions made into the cortical texture of this tree are followed by milk-like liquid, which coagulates rapidly, and becomes viscous and elastic.

Impossible to say precisely when it began to be used, therapeutically, but mention is made of its employment as a vermifuge by Martins in his work upon "Brazilian Materia Medica." Its empirical use in intertropical hypæmia and as an anthelmintic first attracted the attention of Doctor Franca and himself coincidently. But it seems the eminent savant Hucheren was the first who brought it into the domain of rational therapeutics.

A chemist, named Peckolt, undertook the analysis of the extract of ficus doliaria, and discovered an amorphous powder as its, apparently, proximate principle, to which he gave the name of doliarine.

A Dr. Aquedo Lorte de Medo, in 1875, satisfied himself of its action in being analogous to that of papaya in its digestive power. In intertropical hypæmia this observer attributes its success to its influence upon the duodenal parasites present in that disease, and its powerful drastic properties.

Dr. Moncorvo, who is the author of this abridged statement, concludes that—

1. Gamelleira yields a milky juice, possessing drastic purgative properties.

2. This juice has been long known in Brazil as an active vermifuge, and as such used to great advantage in intertropical hypæmia.

3. This valuable extract is endowed, in addition, with digestive properties, due to a vegetable pepsine (doliarine), somewhat analogous to that of carica papaya.—*Journal de Therapeutique de Gubler, Oct.* 10, 1881.

Clinical Observations upon the Action of Cundurango on Carcinoma.

A comparative statement of 132 cases of cancer of the abdominal organs, and particularly of the stomach, which were studied with the view to definitive results, and which were for the last three years almost all treated with cundurango, in the *interne* department of the hospital at Basel, is given by Hoffmann in his inaugural dissertation.

The patients treated without cundurango were in number, 108.

Of those there were reported uncured, - - 22.
" " " improved, - - 10.
" " " as having died, 70.

Those treated with cundurango numbered 20.

Of these were reported uncured, - - - - 2.
" " " improved, - - - 8.
" " " as having died, - 10.

In the second group should be included four other cases under cundurango treatment, where the progress is quite satisfactory.

The discussion of these cases leads Hoffmann to the following conclusions, namely: 1. That cundurango is not an infallible remedy in cancerous affections; indeed, quite unfavorable results have been observed to follow its use. 2. In isolated instances, a direct influence upon the tumor is demonstrable. 3. Certain symptoms, such as vomiting, severe pain, loss of appetite, impaired digestion, emaciation, very frequently disappear under the persistent use of curdurango. Its indication is, for this reason, particularly insisted upon in such conditions.

Senator in Berlin, who refers to this essay in his Centralblatt, declares that the above results find confirmation in a number of personal observations.—*Wien. Med. Blätter*, 1882.

Disturbances Following Extensive Burns of the Skin.

Catiano discards utterly all previous theories as to the causes of the derangement following burns of the skin, and asserts that the true cause lies in the fact that the heat coming in contact with a certain substance on the skin changes the former into a violent poison. Formiate of ammonia is the substance that undergoes the change, and he holds that it is changed by the action of heat (hot water) into cyanic acid. The author goes on to illustrate that if hot water be poured into a vessel containing formiate of ammonia, this salt will be entirely change into cyanic acid, and he holds that the group of symptoms following scalds and burns are identical with the toxic effects of cyanic acid, and further, that the accompanying duodenal ulcers are attributed to resorption of the acid. Our author is unable to account for the usual nephritis following burns. As the most rational treatment he recommends that cold water be kept constantly on the burned surface, and that paralysis of the heart be warded off by means of subcutaneous injections of atropia.—*Catiano. Virchow's Archiv.* LXXXVII., p. 345.

Resorcine in Diphtheria.

The employment of this absolutely harmless medicament in acute and chronic skin diseases of an infectious nature was fully tried and recommended by Andeer some months ago. He has obtained a further therapeutic use of resorcine with equally satisfactory results in diseases of the mucous membrane of the throat and mouth.

The author has treated since 1877 many cases of diphtheria of the pharynx, mouth nose, and other parts of the body with resorcine, and with this agent his results have been far better than were obtained by him with other medicines. In mild cases of diphtheria it suffices to simply cauterize with resorcine crystals or a concentrated resorcine-vaseline ointment, in moderately grave cases repeated applications of the ointment, and in the gravest cases resorcine must be given internally as well as applied locally. By means of this method, which by reason of its simplicity is to be recommended, 222 cases of diphtheria were treated and all cured.—Dr. Justus Andeer, in *Centralblatt für Med. Wissentschaften*, No. 20, 1882.

The Use of Salicylic Acid in Powder.

Schmidt describes the use of salicylic acid in necrotomies, osteomyelitis, ulcera cruris, granulating surfaces and other such places demanding an unfrequent change of the dressing, and further for application to the entire vagina after extirpation of the vaginal portion of the uterus in carcinoma. The application is analogous to the powder of iodoform. Salicylic acid is preferable to iodoform on account of its price and lack of odor. Care must be exercised in the employment of salicylic acid as well as iodoform, as intoxication can take place from too free use of it in children and old people. However, general toxic effects have never been observed to follow its use, although in some cases in which it was readily absorbed by serous membranes, very unpleasant symptoms followed, calling for a discontinuance of the applications.—H. Schmidt, *Centralblatt f. Chir*, No. 1, 1882.

The Bacillus of Typhoid Fever.

Meyer examined 22 cases of typhoid patients and found in 18 of these a large number of bacilli similar to those described by Klebs and Eberth, in the enlarged plaques and in the lymphatic channels of the intestinal canal. In three cases of scarlatina and one of measles examined pathologically, similar bacilli could not be found. Thread-like bodies such as mentioned by Klebs as a special step of development of the typhoid baccillus were found only in necrosed tissue.

Meyer comes to the conclusion that this typhoid bacillus is a special element of typhoid fever, and recommends large doses of benzoate of soda as an antiseptic remedy.

Friedlander recommends that preparations be colored fuchsin, or Bismarkbrown, at a high temperature, in order to obtain the characteristic vacuoles in the bacilli.—C. Friedlander, in *Centralblatt f. Med. Wissentsch.*

A Fluid Tympanum, and a New Method of Treating Chronic Otorrhœa.

The well-known fact that many patients with perforation of the tympanum hear better immediately after the injection of some liquid into the ear, induced the author to replace the solid tympanum with one of fluid. He dropped single drops of glycerine into the ear until, by trials, he was convinced that the hearing could be improved no further, then added a few drops of collodion, and directed the patient to hold the diseased ear in such a position that the fluid would remain intact for 15 minutes.

Michael, in chronic suppurations of the ear employs, instead of pure glycerine, alum or tannin in combination with the glycerine, and then fixes the same by an addition of a few drops of collodion. He has succeeded in this way in curing many old cases of obstinate otorrhœa, having existed years. —*Michael, Berlin Klin. Wochenschr.*, 1882, No. 8.

Expulsion of the Placenta.

In Ahfeld's clinique the placenta is watched closely, and so controlled by the application of a serri fine to the umbilical cord immediately in front of the labiæ, that the distance traversed by the chord can be accurately measured. When the distance from the serri fine to the labiæ is equal to 16.0 ctm. the placenta das left the uterine cavity, and the fundus uteri mounts up about 5.0 ctm. Now the placenta can be removed with ease from the vagina, either by Crede's method of pressure on the fundus, or by bringing the patient in a sitting posture.

In case there arise no hemorrhage the spontaneous expulsion of the placenta should be awaited from 1½ to 2 hours, and the control carried out as indicated above.—R. Teuffel, in *Deut. Med. Wochenschrift*, No. 7, 1882.

Ozone as an Anæsthetic.

Binz experimented at first with cats, rabbits and frogs, and found that all of these animals were affected in a greater or less degree, sleep in many cases having followed the inhalation of ozone. He also caused six healthy persons to inhale ozone through a Siemen's tube; in two cases quiet sleep followed after inhaling six to eight minutes, in one or two cases violent coughing set up, and in one case spitting of blood followed. In the other cases no tendency to sleep was produced, although the inhalations were kept up only a short time.

Binz compares the effects of ozone to that produced by dilute alcohol.—O. Binz, *Berlin. Klin. Wochenschr.*, 1882, No. 1.

The Use of Iodoform in Syphilitic Ulcers.

The author arrives at the following conclusions, after discussing the use of iodoform in the above special trouble, and greatly lauding its good effects: 1. Iodoform acts much more promptly when applied to chancres in powder than in collodion. 2. Chancres or ulcers when covered with crusts must be softened before the application of iodoform. 3. Collodion in conjunction with iodoform often actually shuts the skin out from the action of the iodoform. 4. Iodoform is impotent to prevent induration or other syphilitic appearances following an initial lesion.—Weintrank, Diss. *Centralblatt f. Med. Wissentsch*, 1882, No. 24.

Acquired Color-Blindness.

The anomalies of the sense of color can arise as a conseqnence of changes in the retina, optic nerve and brain. The ability to distinguish colors is neither an individual function of the retina nor a function of the sensorium. A normal sense of colors is dependant rather on a proper structure and arrangement of all three divisions of the eye. —F. Bayer, in *Med. Wochenschrift*, 1882, No. 4.

The Treatment of Catarrh of the Bladder.

I treated eight cases of cystitis, originating in part from gonorrhœa, and partly chronic cases, going out from acute catarrh, with three per cent solutions of hypermanganate of potassium, injected into the bladder once daily. All of the cases progressed successfully.—E. Boegehold, in *Deut. Med. Wochenschr*, 1882, No. 3.

The Treatment of Fractures of the Clavicle by Means of Silver Sutures.

This method, first applied with success by Langenbuch, may, in certain appropriate cases, be employed with success. There is no danger attached to it, and its simplicity recommends it.—Langenbuch, in *Omt. Med. Wochenschr*, 1882, No. 5.

Correspondence.

The Indispensable Cup Syringe.

The indispensable cup syringe has in my practice met a want which I have long felt in the treatment of the various forms of disease of the pelvic organs and tissues.

It is a very simple and convenient arrangement for the injection of large quantities of water, with the patient lying upon her back.

I have prescribed its use in 100 cases, and the results have justified great value to the profession.

E. HATFIELD, M. D.

New York.

Viburnum Prunifolium in Small-Pox.

It has been my lot to treat during the past six months somewhat over 400 cases of unmodified small-pox. In females sick with the disease, near the catamenial period, uterine hemorrhage frequently becomes a most troublesome and serious complication. In these cases the fluid extract viburnum prunifolium has proven in my hands a most valuable remedy; in fact since I commenced its use I have never found it necessary to resort to mechanical means to check the hemorrhage.

RICH'D D. STYLE, M. D.,
Physician in charge.

Richmond, Va., Small-Pox Hospital.

Queries and Answers.

Rhus Poisoning and its Antidotes.

In reply to Dr. J. M. Haralson's request (in May number of your journal) for some satisfactory remedies for poisoning by rhus toxicodendron, I desire to offer the following, which I have found very satisfactory in my hands, but desire to state that probably *no one single formula will cure every case*, owing probably partly to individual peculiarity and partly to the state of inflammation and various complications existing when presented for treatment.

First sponge affected parts with strong salt and water; then, if recent, apply the following:

℞ Cupri. sulphatis. ʒ j
Plumbi acet., ʒ jv
Acid acetic., ʒ ij (pure cider vinegar)
Aq. puræ, ʒ vj.

M. Sponge on freely every two or three hours.

If severe inflammation follow such application try camph. liniment and cover with soft linen cloths or oiled silk.

Here are other remedies that will often serve you well:

℞ Acidi nitro mur., dil. ʒ ij
Aq. puræ, ʒ jv

M. Apply freely.

℞ Camphor,
Chloral hydrat., ℔ ʒ ij
Vaseline, ʒ j.

M. Apply.

If chronic and ulcerated, wash with

℞ Spirit. nitrosi. dulc., ʒ ij
Aq. puræ, ʒ jv.

M.

Or,

℞ Hydr. bi-chlorid, gr. x
Aq. calcis, ʒ viij.

M. And dress with Goulard's Cerate.

C. G. SLAGLE, M. D.

Winnebago City, Minn., June 30, 1882.

Received this morning the Gazette and found by a preliminary perusal of it a question about poisoning by rhus toxicodendron. Not knowing to what "school" your inquirer belongs, I would state, anyway, that belladonna, third dilution, 10 drops in half a tumblerful of water, a teaspoonful every two hours, is *the* proper antidote for rhus toxicodendron;* that is, if the homœopathic preparation is used. If your inquirer has any belief in homœopathy (and it needs not much to see clearly that it is *the only* scientific mode of treatment), he must possess some works on it, and will find that in *some* instances bry., or camph., or crot., or coff. co., may be more advisable. All used same way.

I will not discuss the preferment of homœopathy here; I know it would be sown in the wind. Suffice it to say that if allopaths did really and profoundly know what homœopathy is, there would not be any more allopaths.

J. LENGGENHAGER, M. D.

Utica, N. Y., July 3, 1882.

J. M. Haralson, M. D., asks for a remedy for poisoning by rhus toxicodendron. I will give my old grandmother's remedy, which I have always found effectual in the short space of 24 hours. I never use anything else. Here it is. Wash the parts with lime water, three or four times, is all that is required. But perhaps the above remedy is too simple; if so, then bathe the parts poisoned in aqua calcis, three or four times.

JOHN GRANVILLE, M. D.

Des Moines, Iowa, July 3, 1882.

If Dr. Haralson will pulverize (completely) ordinary gunpowder, mix sweet cream (sufficient quantity to form thin paste) and apply twice daily in two or three days the trouble will cease. Application severe, but sure cure. I speak as one being as susceptible to poisoning by rhus toxicodendron as any one on earth. Is the only cure for me. No bad effect of any kind follows its use.

S. H. WEATHERFORD, M. D.

Corn Hill, Williamson Co., Tex.

In the June number of The Therapeutic Gazette I notice a request from Dr. J. M. Haralson, for a remedy for the poison of rhus toxicodendron. A strong solution of ferri sulphas will be found a specific, as much so as quinine is for ague. I have used this for the last thirty years on myself and in my extensive practice without a single case of failure.

W. B. SWISHER, M. D.

Unadilla, Neb.

Your correspondent, J. M. Haralson, M. D., June number, will find oil of cedar, applied with a C. H. brush, three or four times a day, the best treatment for rhus toxicodendron poisoning. I am one of them that dare not look at it when the dew is on it.

W. T. GRIGSBY, M. D.

Trenton, Tenn., July 7, 1882.

*I had seven cases last year, all of them unsuccessfully treated by allopaths, and all of them got over it inside of three days.

The Therapeutic Gazette

WM. BRODIE, M. D, Editor.

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On the use of Pepsin and Other Digestive Ferments.

PERHAPS no argument is more strongly in favor of the use of digestive ferments in therapeutics than their increasing popularity, yet, while so much may be said in favor of this treatment the empirical method in which they are employed is open to adverse criticism. There can be little doubt that the use of pepsin, trypsin, ptyalin, and other digestive ferments serve to aid nature not only by turning proteins into peptones, starch into sugar, etc., thus converting food into forms suitable for absorption and assimilation, but in the saving of that amount of vital energy in systems already exhausted, and incapable of secreting the amount of digestive juices necessary to the nutritive processes. Many persons live in a state of semi-starvation owing to impaired appetite due to dyspepsia, and in such cases the ill-nourished tissues, from lack of vitality, too often fall a prey to structural degeneration. After a time dyspepsia gives rise to impoverished blood and that in turn to tissue changes and the whole list of nervous phenomena found in patients suffering from anæmia. Dr. Andrew H. Smith, of New York, has graphically described the cycle of events which lead to this condition in his admirable paper on supplementary rectal alimentation. Dr. Smith says that "this condition, when standing by itself, is recognized as atonic dyspepsia; but it is the accompaniment or result of a wide range of affections by which it is overshadowed, and which sometimes cause its importance to be overlooked. Now, if poverty of blood is not the original occasion of the weak stomach, it very speedily becomes its result. Indeed, these two conditions necessarily act reciprocally as cause and effect. And the reason of this is plain. Weakness of the stomach (and by the word stomach in this connection I mean the whole alimentary apparatus), depriving the system of a portion of its necessary supply of nutritive material, must result in impoverishment of the blood; while a stomach whose nerves, muscular fibres and glands are supplied with thin and watery blood must be irritable, must perform its muscular movements languidly, and must afford a weak and inefficient secretion for the solution of the food—in other words, must become weak. Thus we have a circle established, atonic dyspepsia producing poverty of the blood, poverty of the blood producing atonic dyspepsia."

The treatment of atonic dyspepsia is three-fold, and these measures are resorted to whether the condition exists by itself or is a complication of some other disease: In the first place, we endeavor to furnish the stomach with easily assimilated food requiring but little digestive fluid or vital force to break it down and convert it into blood; second, by means of tonics, stimulants, and hæmatics, we attempt to force the nervous and vascular supply of the stomach into more vigorous action; third, by supplying the debilitated stomach artificially with the necessary digestive fluids, we have attempted to make art do what nature would not do. To the latter we owe the various forms of digestive ferments now so largely employed by the profession. The importance of studying the physiological action of digestive ferments and the fitness of the numerous pharmaceutical preparations recommended to fill the indication of treatment in these cases is, therefore, apparent.

In speaking of the tendency of the times in the treatment of this atonic condition of the digestive system, and the myriad forms of digestive ferments placed before the medical profession by the enterprising pharmaceutical manufacturers, a well known writer refers to ingluvin, said to be prepared from the gizzard of the domestic fowl, and claiming to be five times as strong as pepsin, and says that ere long we shall find upon our tables illuminated circulars, in the highest style of decorative art, announcing a new preparation fifty times as strong as ingluvin, made from the gizzard of the ostrich. The sarcasm of this New York author is by no means out of place, and it is most unfortunate that a state of affairs exists calling for such a remark. Gold, however, has its imitations, and in the proportion that a remedial measure is of value it will be imitated by quackery. But because quackery imitates everything of value in the therapeutic art is no argument against the merit of the measure which it may imitate; and it does not follow because the market is overstocked with trash that true digestive ferments rightly applied are not to be commended in treating the sick. We are certainly indebted to Prof. Scheffer for his valuable contribution to scientific pharmacy in his method of isolating the digestive principle of the gastric juice, and to other chemists and pharmacists for the good work they have done in other departments of pharmaceutical work.

Mr. Langley, of Cambridge, has recently pointed out some interesting facts which are being used as an argument in favor of the view that digestive ferments are destroyed in the alimentary canal under certain conditions, and that these conditions should be taken into consideration in their administration. He finds that those digestive ferments which

are secreted in a neutral or alkaline fluid are rapidly destroyed by acids, and that those which are secreted in an acid medium are rapidly destroyed by alkaline salts. He argues that the ferments of saliva and pancreatic juice are destroyed by the stomach, and that the ferments of the gastric juice are destroyed by the intestine. Much difference of opinion seems to exist on this subject among physiologists, some maintaining that, though a ferment secreted in a neutral or alkaline food may lose its activity in contact with an acid, it regains it as soon as again made alkaline; and that the same principle holds true, only in the reverse, in case of a ferment secreted in an acid medium. Arguing from the former view, it is claimed that it is very improbable that a pancreatic extract given with food aids digestion to any appreciable extent, for trypsin and other ferments contained in it are rendered ineffective before they reach the duodenum. If the latter view is correct, however, pancreatic extract given with the food might aid the digestive process in the duodenum, being rendered again active by the alkalinity of the duodenal secretion and bile, and, that, therefore, the process of turning the starchy matters of the food into sugar can be hastened, or the emulsion of fats facilitated by the administration of ptyalin, or an extract containing the ferments of the pancreatic juice. Those who agree with Dr, Langley reason that the rapidity with which the sugar-forming ferment of the salivary glands or pancreas is destroyed by the acid of the gastric juice, shows that an extract of either of these glands can have very little effect upon starch in the stomach. But there is a time, however, for about three-quarters of an hour after a meal in which there is reason to believe that there is no free acid in the stomach, being neutralized, probably, by the alkaline constituents of the food and saliva. During this time the conversion of starch into sugar could go on, and the administration of a digestive ferment for the purpose of aiding in this process would seem to be indicated in those cases, where, for any reason, a deficiency of healthy salivary secretion exists. Pepsin, on the contrary, if this view is correct, should be given about three-quarters of an hour after meals.

A Doughty Defender of the Professional in Pharmacy.

ONE by one, although somewhat backward in doing so, the medical journals of this country are falling into line on the right side of the question of proprietary medicines. We recognize the cause of the tardiness with which they move, but believe that before long there will, in spite of the influences which now tend to keep them silent, be a general declaration in favor of the abiding interests of the profession, and that the temporary good of the medical journals will not be suffered to stand in the way. Medical journals, it is of course understood, have a business as well as a professional side, and while the professional is, or ought to be, the chief, unless the business is properly kept up the former cannot be. The business side has to do with the subscription and the advertising accounts. It is these which furnish the pabulum, without which the journal must needs droop and die. Unfortunately, in this country, matters have assumed such a shape in connection with the publication of medical journals that the profits are almost exclusively from the advertising department. The publisher who collects a sufficient amount on subscriptions to meet his printers' bills is a fortunate man, and he has the proceeds from advertising as his profit. It is, too, but a very small proportion of the whole number of the medical journals published in this country which are even in this condition. The vast majority are owned by their editors, who find it such close work to meet the printer's demands with the proceeds of both departments of their journals, that were the advertising to be cut off, the publications would either be obliged to suspend, or they would be conducted at a loss for which the reputation which they bring the editors and the books they receive for review, would scarcely be a compensation. The profession have, for the past ten years at least, through the support which comes to the journals through advertising, been receiving their periodical literature at ruinously low prices, if compensation is to be allowed the editors for their work. It has practically come to a pass in which the perpetuation of the vast majority of the medical journals of this country is conditioned on the sweet will of advertisers, and none are so cognizant of the fact as are the manufacturers of nostrums. These gentlemen have, moreover, during the past year, not been slow to exert their influence on the medical journals, and they have done so in every instance, where a medical journal has dared to come out and boldly denounce the abuses to which they have subjected the system of copyrights and trade-marks.

We would by no means intimate that the medical press has been subsidized, for that would be an uncharitable version to place upon their silence in the presence of abuses which are sapping the foundations of the profession of medicine as a means of livelihood in this country. The position in which the press is found is one from which, we believe, they would gladly be extricated, but the way out of which they cannot discern. Until the profession are brought to a willingness to pay a sufficient subscription price for their journals to make the publishers independent of advertisers, it is to be feared that the thraldom of late years will continue. It is a humiliating state of affairs and one which can be radically remedied only by a determined and a united effort. Were the medical press to unite in condemning the nostrums which it now advertises and to which it thus lends its quasi endorsement, and were it to refuse their advertisements to their columns, it would encourage legitimate manufacturers to come in and occupy the field. It is also extremely doubtful whether a general repudiation of the advertisements of unethical and unscientific compounds would have any deleterious effect on the publication of medical periodicals. Those which have merit to commend them would certainly survive, and it would be much better that those which are devoid of merit should succumb.

In the midst of the condition of affairs above

indicated it is exceedingly gratifying to note the bold stand taken by Robert H. Cowdrey, Esq., editor of the Pharmacist and Chemist. That gentleman, after a careful study of the baneful system of copyrights and trade-marks in its effects on pharmacy, has come out on the side of his profession and is smiting its enemies hip and thigh. Threats of the withdrawal of their patronage and its actual withdrawal by nostrum-mongers, have not caused him to swerve for one moment from his line of attack. His journal has in it that which such withdrawal of patronage cannot destroy and the profession of pharmacy will stand shoulder to shoulder with him in fighting their enemy. He is fearless in his exposé of the methods of the nostrum-mongers, and we cherish the hope that he will soon be joined by other distinctively medical journals of the same pluck and energy and ability.

Bacilli as Etiological Factors in Disease.

If there has been any one feature more prominent than another in medicine during the past two or three years more particularly, that feature has been the enquiry into the causation of disease. This inquiry may be said to be characterized by a species of materialism, that is, the search has been for demonstrable germs, which being taken into the system, give rise to the particular diseases, or, in other words, the tendency has been to regard disease as the fruitage of certain seeds, sown in the soil of the system. This conception is, we say, somewhat materialistic as opposed to the somewhat vague hypotheses of telluric, and other intangible influences, which have for many years dominated the professional mind.

Our readers are doubtless familiar with the experiments which Pasteur, Koch, Klebs, Tommasi-Crudeli, Sternberg, Wood and Formad have reported within the past year. The activity of investigation in this direction is clearly manifested by this array of names, and the expectant medical mind looks longingly towards the east for the appearance of the day star of hope for deliverance from the uncertainty which has, ever since medicine started on its history, so perplexed the searcher into the causes of diseases. As yet, however, although hope has been buoyant and full of lively anticipation, it has not had much that it can plant its foot upon, as upon a solid foundation. Pasteur, it is true, has discovered the *fons et origo malis* of the splenic fever and cholera which have been wont to decimate the herds and chicken coops of France, but although his discoveries have raised us up to where we can wellnigh isolate the bacillus which works death in the form of diphtheria and scarlatina, we have not yet been quite able to do so. When this greatest among modern savants discovered the germ of these diseases which deal death to these lower animals, and by cultivating them, robbed them sufficiently of their virulence to permit of their inoculation into the well beast, which it thoroughly protected against the spontaneous and fatal form of the disease, the heart of humanity gave an exultant throb. Was it too much to hope from these experiments, that the germs of diphtheria and scarlatina might soon be detected and isolated, and that they too by cultivation might be sufficiently mitigated in their virulence to permit of their injection in the prophylaxis of two of the most fatal diseases of the nursery, after the same manner that we now prevent small-pox? A year has, however, passed without a realization of the hope. Will it ever be realized?

Koch has detected, or at least has flattered himself that he has detected, the bacillus which on infesting the system causes consumption, the most fatal of the diseases to which human flesh is heir. This discovery has, however, not borne any fruit in practical results in either man or animal, and granting that he has not deceived himself, as some observers claim that he has, it is somewhat difficult to see wherein any such result is to accrue.

Tommasi-Crudeli in Europe, and Sternberg, under the direction of the National Board of Health in this country, have been investigating the bacillus malariæ, with, however, no harmony of result, the former claiming to have found the bacillus, and the latter either denying or doubting its existence. Any hope that these experiments might settle forever the vexed question of the material nature of the cause of fever and ague, has not yet been justified, and although the investigations and speculations of these gentlemen are interesting from a scientific point of view, their fruit in practical results is as yet problematical.

The investigations and experiments of Drs. Wood and Formad, into the origin and causation of diphtheria, have been extremely interesting. Their only practical result thus far has been in the direction of establishing the fact of the local origin of the disease, that is, that it originates on the mucous membrane of the throat and afterwards becomes systemic, instead of *vice versa* as many have held. These experiments have moreover been decidedly in support of the view of the unity as opposed to the duality of diphtheria and croup.

In the midst of the activity above indicated, and in spite of the fact that the practical outcome is as yet little or nothing, it will be seen that when such outcome is developed, if haply it ever is, it will not surprise us or find us unprepared to avail ourselves of the immense possibilities which they have in store.

Clinical Record Blanks.

BY permission of Surgeon-General Hamilton, U. S. M. H. S., we reprinted in the THERAPEUTIC GAZETTE for April, 1882, p. 156, a "Clinical Record blank" used by the Marine Hospital Service, with an offer to furnish copies gratuitously to physicians interested in the investigation of drugs. Difficulty in securing proper rules for an enlarged edition of the "Record," suitable in size for use, prevented us from fulfilling our promise. As we have finally succeeded, however, we take occasion to repeat our offer, and will send, post-paid, copies of the Marine Hospital "Clinical Record blanks" to physicians sending us their addresses.

Nitrite of Amyl, Its Adulteration or Substitution.

MANY of the so-called failures of a remedy are no doubt due to the bad quality of the drug employed. Mr. David Dott (Pharmaceutical Journal and Transactions) calls attention to the very bad quality of many of the specimens of nitrite of amyl found on the market. We should be happy to hear from some of our friends on the adulterations and substitutions of drugs that are noticed by them in their practice.

Abstracts.

On the Salicylate Treatment of Rheumatism.

Dr. C. S. Clouston, in the Practitioner for May, 1882, gives the results of the use of salicine in 27 consecutive cases of acute and subacute articular rheumatism occurring in private practice, the results being compared with those of other observers. The treatment of acute rheumatism has been from time immemorial one which has yielded but little satisfaction to most practitioners; and when Dr. Maclagan first published his experience of the results obtained by the use of salicine, those who had tried most of the other methods of treatment were doubtless inclined to look upon any new suggestion with great skepticism. This was the condition of the author, but he states that when he first put salicine to the test he was agreeably surprised by the result, the pain rapidly subsiding and the acute symptoms being gone in a few days. He then used salicylic acid and its soda salt with equally good results, finding the latter on the whole the most useful.

Dr. Clouston says that there can be little doubt of the importance of statistics from private practice, for there alone is acute rheumatism met with in its natural state, being under observation from the very outset of the attack, instead of not until the seventh or eighth day, as in hospital practice, a fact which cannot fail to influence prognosis as well as the results of any treatment.

He states that his cases are entered in the same order as they occurred; but in tabulating he has arranged them according to their temperatures, as follows:

SIXTEEN ACUTE CASES.

3 cases with a temperature of 103 or over.
5 " " " " 102 but under 103.
8 " " " " 101 " " 102.

ELEVEN SUB-ACUTE CASES.

6 cases with a temperature of 100–101.
2 " " " " under 100.
3 " " " " not noted.

Of the three cases not noted, one was complicated with scarlatina, and one with bronchitis, while the third occurred in an infant, the temperature being probably considerably raised in all.

His patients were confined to bed during treatment, but it was not insisted that the bedding and clothing should be entirely flannel as is sometimes done. The diet was light; milk, farinaceous food, or light soup being given until the acute stage was over, after which solid food was gradually resumed, stimulants being seldom required until convalescence.

Thirteen of the cases were first attacks; six were second attacks; three were third; one fourth; one fifth; one sixth; one seventh, and one an eighth. Thus more than half the cases occurred in patients who had had previous attacks. One patient had four separate attacks (cases 14, 15, 24 and 25), and another had two (cases 6 and 7). The number of patients was thus only 23.

Salicine, salicylic acid, and the salicylates produce similar effects, and when given in acute rheumatism the action of the skin is generally increased, and the severity of the pain much lessened, after about five or six hourly doses of 10 or 12 grains of salicylate. The pain continues to decrease, and is generally gone in from two to four days, the sweating in most cases continuing more or less all the time. Meanwhile temperature falls steadily and rapidly to the normal point. The fall in temperature is not, however, generally noticed until after the pain is somewhat relieved, and on an average the normal temperature was not reached in any cases until after the total absence of pain. The pulse becomes slower and softer, and if much salicylate be taken, the first sound of the heart becomes much less pronounced, large doses acting as cardiac depressants. The author also says that convalescence was generally rapid and satisfactory, and that he had had no fatal cases. He then goes on to state the results of his treatment in detail, considering its effect on (1) pain; (2) the action of the skin; (3) temperature; (4) the circulatory system; (5) the respiratory; (6) the muscular; (7) the digestive; (8) the nervous; and (9) the genito-urinary systems.

Dr. Clouston says that pain was in every case speedily lessened, and material relief was obtained on the first day of treatment in the majority of cases. The average time until pain was entirely gone, no tenderness remaining in the affected joints, was 22 days, the average being a little longer in the acute than in the sub-acute cases. In no case did the tenderness and pain remain longer than ten days after the treatment was commenced.

In regard to the action on the skin, this author states that sweating occurred in a large proportion of the cases. It often came on after five or six doses, about the same time that the pain is first notably relieved, and the patient if hitherto sleepless frequently falls into a quiet sleep when this occurs. A miliary rash was observed in some cases which he thinks may or may not be attributed to the drug, as it is no uncommon occurrence in rheumatism. Urticaria occurred in one case.

The average temperature was 101.25 on the first day, and 99.7 on the second, 99.2 on the third, or barely over the normal. The average time until temperature became normal was 3.31 days, being 3.46 in the acute and only 3 days in the sub acute cases.

The effect of the salicylate treatment on the circulation was to depress the action of the heart and reduce the strength and volume of the pulse. The effect on the pulse may generally be observed after four or five hourly doses of ten or twelve grains each, the pulse becoming soft and compressible. When given in amount sufficient to produce marked salicylism it has a powerful effect in reducing pressure. This was especially noticed in two cases, in one of which salicine was used, the other being treated with the salicylate. In both acute salicylism occurred, accompanied in the latter by considerable cerebral disturbance. According to Ringer, marked weakening of the first sound of the heart is frequently observed, while the frequency of the pulse is rapidly diminished, larger doses, however, frequently accelerating it to 140 or more. This did not occur, however, in any of the cases reported by this author.

Cardiac murmurs were heard in 7 cases altogether. Three of these, all endocardial, were known to be of long standing from previous attacks, and ther e

was no symptom of recent heart-affection in any of them. In two others, temporary endocardial murmurs were heard, case 13 having a murmur when first seen but not afterwards, and case 26 having a murmur for about a day during a relapse, both being probably of hæmic origin. In two cases only, or 7.4 per cent., was there recent heart affection; one of endocarditis in case 21, a boy of 8, the acute stage lasting only three days under treatment; the other, case 16, being pericarditis in a lad of 17, in whom the acute stage was prolonged by effusion to 7 days. In both the heart was affected when first seen; and in none of the patients did heart disease arise after treatment was commenced.

Particular notice is called to the necessity of bearing in mind the powerful depressing effects of large doses of salicylates, and the necessity for giving nutrients and diffusible stimulants on the slightest symptom of failure of the heart's action, or giving them along with the medicine in order to prevent the weakening effect.

Large doses of salicylate quicken the breathing to a very marked extent. Bochefontaine and also Labordi consider that in fatal doses the respiratory movements are arrested before the heart ceases to beat.

Under large doses there is often marked muscular weakness and tremor, associated with great irritability; so that a slight tap, say on the shoulder, causes muscular contractions so strong as to jerk the arm backwards (Ringer). These symptoms are apparently due to the effect on the nervous system, and pass away rapidly when the salicylate is stopped.

Salicylic acid is a local irritant, and when given for any length of time produces soreness of the throat and fauces. The author draws the inference that this is not one of the constitutional effects of the drug for the reason that it does not occur from the use of the salt, which acts in all other respects precisely like the acid.

Both the acid and the salt frequently cause nausea. Their taste may have something to do with this, but the chief reason is doubtless the irritant effect which is produced on the mucous membrane of the stomach. Nausea is a symptom of no importance, unless so severe as to interfere with the taking of the medicine. Vomiting occurred in two cases, but was caused in the former by too large a dose; and in the latter by the salicylate being continued too long, nine doses having been given in the course of one night after "tinnitus aurium" had set in.

The bowels are, as a rule, confined while the drug is being taken; but at times profuse diarrhœa occurs.

Salicine produces but little disturbing effect on the digestive system. In speaking of the effect of the salicylate treatment on the nervous system this writer goes on to say that large doses of the salicylate produce a powerful effect. This tendency is apparently very strong in certain individuals, as well as, generally speaking, in old or feeble persons. It is increased by constipation, or a too free use of the medicine at the outset; toleration being, however, soon established if it be given with caution for a time. The chief nervous phenomena produced by the salicylate are flushing of the face, with headache, tinnitus aurium, deafness, restlessness, and delirium. Of these the most characteristic is the tinnitus aurium, and it is generally the first to attract the attention of patients, who describe it as being like the sound of a train or like machinery at work; from its being so clearly recognizable by the patient, it is a valuable guide as regards the continuance of the drug. The author orders 10 to 12 grain doses of salicylate every hour, "till pain is relieved, or ringing in the ears comes on." By this means a very rapid effect is produced on the disease, and without any risk of toxic symptoms.

Should delirium occur, the medicine should at once be withheld, and elimination through the kidney, promoted by copious cool drinks, such as lemonade with cream of tartar. Tea and coffee are valuable, and stimulants could be given if required. In severe cases excitability is best reduced by bromide of potassium and chloral, to which opiates have in some cases been added with good effect, though they might be supposed to be contra-indicated on *a priori* grounds as being likely to diminish the urinary secretion.

In regard to the action of this treatment on the genito-urinary system, this author says that salicine, salicylic acid, and salicylate of soda can be detected in the urine very shortly after being taken; their presence being shown by the addition of a few drops of per chloride of iron, which produces a purple color, which Ringer says is owing to salicyluric acid, in which form he says they are eliminated by the kidneys. The quantity of urine is generally diminished, probably owing to the copious perspiration which so frequently occurs. The excretion of urea and uric acid, which is generally so abundant in acute rheumatism, is greatly decreased by the salicylate, and the water is thus proportionately increased (Stillé & Maisch; Acland).

The writer quotes authorities who state that albumen has been frequently found in the urine during the use of the salicylates, and also refers to instances which have been reported of acute nephritis, with bloody albuminous urine containing casts, and also instances of almost total suppression of the urine. Though agreeing with Squire, that caution should be employed in the use of salicylates on account of their irritant effects on the kidneys in some cases, the writer holds that the fear of renal irritation need not stand in the way of their free use, unless marked symptoms occur. Though he has used them freely in a large number of cases, he has never seen any bad effect of the sort from their employment.

A case is also referred to, reported by Ringer, where the urine became of an olive green color, which, according to that observer, may have been due to a trace of carbolic acid in the specimen of drug used. At the same time there was an involuntary evacuation of fæces. Dr. Clouston also refers to Moore's statement that the salicylates sometimes exert a powerful antiphrodisiac effect, which, however, he says, rapidly disappears under the use of damiana.

Health and Weather in Michigan.

We abstract the following from the health bulletins and meteorological reports of the Michigan State Board of Health, which represents officially the results of the investigations of a large number

of observers in various parts of the State in relation to prevalent diseases, causes of sickness, etc., and also meteorological observations, at 7. A. M., 2 P. M. and 9 P. M., daily, at the office of the State Board of Health, State Capitol, Lansing, Mich.:

Latitude of Lansing, 42° 43′ 53.11″; longitude, 84° 33′ 19.68″.

For the week ending June 10, 1882, the reports indicate that typhoid fever increased, and that bronchitis, erysipelas, measles, consumption, whooping cough, inflammation of bowels and pneumonia decreased in area of prevalence.

At the State Capitol the prevailing winds were southwest, the average temperature was higher, the average absolute humidity, and the average day ozone were more, and the average relative humidity and average night ozone were less, during the week ending June 10, than during the preceding week.

Including reports by regular observers and by others, diphtheria was reported present during the week ending June 10, and since, at 14 places; scarlet fever at 19 places, measles at 13 places, and small-pox in 7 places, as follows: at Pontiac, June 7; at Flint, Detroit, Cadillac, and at Wayne County pest house, June 10; at Port Huron (1 immigrant convalescent, June 11); at Grand Rapids, (1 death, June 12, 17 cases), June 14.

Range for the week: temperature 36°, barometer .443 inch, ozone 3°.

Prevailing winds, southwest; frosts, June 5.

During the week ending June 10, the average temperature was 4.72° higher; the maximum temperature 6° higher; the minimum temperature 3° higher; the maximum barometric pressure .060 of an inch lower; the rainfall 1.43 of an inch less; the average absolute humidity .25 of a grain of vapor (in each cubic foot of air) more; the average relative humidity 5 per cent less; the average day ozone .15° more; and the average night ozone 1° less, than for preceding week.

For the week ending June 17, 1882, the reports indicate that neuralgia, diarrhœa, and measles increased, and that remittent fever and influenza decreased in area of prevalence.

At the State Capitol, the prevailing winds were east; the average temperature was higher, the average absolute and average relative humidity were more, and the average day and night ozone were less, during the week ending June 17, than during the preceding week.

Including reports by regular observers and by others, diphtheria was reported present during the week ending June 17, and since, at 14 places; scarlet fever at 19 places, measles at 17 places, and small-pox at 7 places, as follows: At Port Huron (one immigrant, convalescent), June 11; at Kalamazoo (two cases, convalescing), Detroit, Flint, and at Wayne county pest house; at Grand Rapids (three deaths during the week ending June 17, three new cases June 21); at Battle Creek (one new case), June 22, 1882.

Typhus fever was reported brought to Jacob City, Mackinac county; but health officer John Becker reports it "chills and fever"—not "typhus fever." A German woman, with five children, landed at Baltimore from the North-German Lloyd steamer Ohio, April 9, was detained at Baltimore, afterwards arrived at Jacob City, with one child, both being sick and destitute. The husband, who lived at Jacob City, nursed them. In one week he was taken sick, and five days later he died. The other four children arrived at Jacob City on the day of the father's death, sick with "chills and fever." All but the father recovered. No subsequent cases thus far reported.

Range for the week: temperature 38, barometer .570 inch, ozone 4°.

Prevailing winds, east.

During the week ending June 17, the average temperature was 7.71° higher; the maximum temperature 5° higher; the minimum temperature 3° higher; the maximum barometric pressure .131 of an inch higher; the rainfall .86 of an inch less; the average absolute humidity 1.55 of a grain of vapor (in each cubic foot of air) more; the average relative humidity 8 per cent. more; the average day ozone .15° less; and the average night ozone 43° less, than for preceding week.

For the week ending June 24, 1882, the reports indicate that cholera infantum and cholera morbus greatly increased, that erysipelas, inflammation of the bowels, and intermittent fever increased, and that scarlet fever, influenza, and pneumonia decreased in area of prevalence.

During the week ending June 24, at the State Capitol, the prevailing winds were southeast; and compared with the preceding week, the average temperature was higher, the average absolute and the average relative humidity and the average night ozone were the same, and the average day ozone was less.

Including reports by regular observers and by others, diphtheria was reported present during the week ending June 24, and since, at 14 places; scarlet fever at 13 places, measles at 14 places, and small-pox at six places, as follows: at Detroit and Flint; at Battle Creek (one new case), in Polkton, Ottawa County (one new case), in White Cloud, Newaygo County (four cases in mild form, all having been vaccinated this spring), June 22; at Grand Rapids (three new cases June 28, 30 cases in all, including convalescents. One death, June 28).

June 26, Dr. C. W. Shepard, of Mendon, writes of a recent outbreak of diphtheria at that place, that the source of contagion was traced to a house where the disease existed one year previous.

Dr. S. J. Hutchinson, of Northport, Leelanaw County, writes, June 25, that the first case of diphtheria ever coming under his treatment in that locality is in a German family who have been there but six weeks. The disease appears to have been imported. Other members of the same family have been troubled with "sore throat" for four weeks or more.

Reports from sanitary inspectors, during the week ending June 24, mention 10 cases of measles found among immigrants arriving at Port Huron, and eight cases of measles among those arriving at Detroit.

Range for the week: temperature 40°, barometer .764 inch, ozone 3°.

Prevailing winds, southeast.

During the week ending June 24, compared

with the preceding week, the average temperature was .81° lower; the maximum temperature 5° higher; the minimum temperature 3° higher; the maximum barometric pressure .059 of an inch higher; the rainfall 1.68 of an inch more; the average absolute humidity grains of vapor (in each cubic foot of air) the same; the average relative humidity the same; the average day ozone .43 less; and the average night ozone the same.

For the week ending July 1, 1882, the reports indicate that measles, typho-malarial fever, inflammation of the bowels, intermittent fever, whooping-cough and puerperal fever decreased in area of prevalence. There was no marked increase in any disease reported.

At the state capitol, during the week ending July 1, the prevailing winds were northwest; and, compared with the preceding week, the average temperature was higher, the average absolute humidity and the average day ozone was more, the average relative humidity was about the same, and the average night ozone was less.

Including reports by regular observers and by others, diphtheria was reported present during the week ending July 1, and since, at 12 places; scarlet fever at 14 places, measles at 13 places, and small-pox at four places, as follows: at Detroit and Grand Rapids; at Kalamazoo, (one case, convalescent), July 3; at Flint (many cases), July 5.

Reports from sanitary inspectors for the week ending July 1, mention one case of measles brought by immigrants arriving at Port Huron, and one case of measles among those arriving at Detroit.

Range for the week: temperature, 45°, barometer, .493 inch, ozone 4°.

Prevailing winds, northwest.

For month of June: highest barometer (20th), 29.223 in.; lowest (3d), 28.424 in.; prevailing winds, southwest.

During the week ending July 1, the average temperature was 2.81° higher; the maximum temperature 3° lower; the minimum temperature 8° lower; the maximum barometric pressure .106 of an inch lower; the rainfall .79 of an inch less; the average absolute humidity .42 of a grain of vapor (in each cubic foot of air) more; the average relative humidity 1 per cent more; the average day ozone .43 more; and the average night ozone .14 less, than for the preceding week.

For the month of June, the average temperature was 13.76° higher, the maximum temperature 11° higher; the minimum temperature 16° higher; the maximum barometric pressure .146 of an inch lower; the rainfall 1.18 inches more; the average absolute humidity 2.00 grains of vapor (in aach cubic foot of air) more; the average day ozone 1.36° more; and the average night ozone .04° more, than for the preceding month.

The Pharmacist in his General Relation to Society.

The New York State Pharmaceutical Association met in annual session at Albany on Tuesday, June 13th. The following short essay from Mr. C. H. Scoville, of Tonawanda, a member of that society, was read, and will appear in the published proceedings:

The pharmacist occupies a position in the business and social framework of society scarcely less important and responsible than that of the physician. While it is not within his province to diagnose the disease, or decide what remedy shall be used, he is required under the direction of the physician to prepare the various remedies.

The more knowledge he can have of the qualities and effects of these remedies the better he will be able to insure the correctness of his work. Drugs and chemicals which are to be used as medicines and taken into the human system must be handled with the greatest care and accuracy.

The good pharmacist should have a thorough knowledge of the properties of each substance that enters into the prescription, and its general effects upon the physical system, so as to be something more than a mere mechanical agent in doing his work. With that knowledge he may often assist the physician, besides being secure against committing any errors that seriously endanger health or life. The public demand, and that justly, that he shall attain to this standard of knowledge before he attempts to serve it in this professional capacity. It is simply his duty to satisfy that demand, notwithstanding it may cost years of close attention and careful study. The pharmacist must be a man of strict personal honor. He must keep all knowledge which he is intrusted with in the performance of his work relating to the character, habits, or condition of his customers sacredly concealed within his own breast. Many persons who seek his services have ailments of a delicate character which should be known only to them who are asked to prescribe or prepare relief. The prescription presented tells often as plainly as words the character of the sufferer's complaint. Professional honor demands of the pharmacist, no less than of the physician, that he should keep all these matters strictly guarded from the ear and tongue of the public. He must be diligent in the performance of his work and ever at his post of duty. It is his business to prepare medicines for the sick, consequently his services may be needed at any moment. Let him so perform his work that it shall give the greatest benefit to suffering humanity, besides promoting in the highest degree his own business welfare.

He should make it his especial aim to keep abreast of the times in the acquirement of new and useful knowledge in his profession; laboring not only for himself but for the common cause of pharmaceutical science. Let him subscribe for and carefully peruse the best journals or papers devoted to the cause. Let him attend the meetings of the Pharmaceutical Associations of the town, county and state to which he belongs, for it is there that mind meets mind, intellect is sharpened by intellect, and new ideas are advanced, discussed, and utilized to the benefit of all. If at any time he is prevented by private duties, or obligations, or business from so doing, let him at least send a word of suggestion and cheer to his brothers who do assemble, which will show that he aims to be an active worker in his profession and a live member in his society. He

will then assist, though in a humble way, to keep up the spirit and framework of the association. This is a matter of much importance, for such organizations rightly conducted will enhance the efficiency and strength of the profession, and not only enable it to work better for society, but command the respect and secure the rights which are due to its members as a distinct class of workers in the community, having rights peculiar to themselves.

The Effect of Ipecacuanha on the Uterus During Labor.

A recent writer in the Medical Record says that about two years ago his attention was drawn to an article written by a southern physician, in which it was affirmed that ipecac increased the expulsive power of the uterus if administered in cases of tedious labor, so he determined to give it a trial. Some time later he was called to a case of confinement. It was of a woman with her third child. She had had sharp pains for nearly four hours. He found her in a very nervous state, greatly excited, and apprehending some calamity. On examination per vaginam the os was found hard, rigid, and undilated, with difficulty admitting the finger, and just to the internal edge a constricting ring utterly devoid of elasticity. Her pains continued, but were very irregular; and after a period of two hours, no visible alteration in the rigid os was noticeable. A five grain powder of ipecac was then administered, and repeated twice at intervals of about twenty minutes. To the author's surprise the patient soon became quieter, and ceased her cries of pain, which before were sufficiently loud to be heard distinctly in any part of the house. On making another examination the os was found softened and dilating rapidly under the pains, which were now regular and strong, and labor was soon completed without difficulty. In several other cases where the pains were irregular and the os rigid and undilatable it has since been used by this observer, and with benefit. He does not think that it increases the muscular power of the uterus, but it seems, however, to have a specific effect on the rigid os uteri, softening and relaxing its fibres, as well as a co-ordinating influence on the irregularly contracting uterine muscles, causing them to act in harmony. The author goes on to say that opium and ergot are the only oxytocics of value which we have at our command; but many serious accidents have followed the injudicious use of the latter, and its effects are often far from what we desire. Hence, the discovery of any remedy which will alleviate the sufferings which the parturient female has to undergo during protracted labor and hasten its favorable termination, will be heartily welcomed.

The Use of Quinine to Prevent Abortion and in the Treatment of Uterine Derangements.

Dr. Campbell, in the Gynæcological Transactions for 1881 (Practitioner for June), recommends the employment of quinine to prevent threatened abortion and in the treatment of various uterine disorders. He considers that during the whole period of pregnancy there is an exalted reflex excitability of the cerebro-spinal centers as well as a general plethoric condition of the system. Though intended for the purposes of fœtal growth this renders the mother liable to various morbid reflexes. These are of two kinds, according as they occur before or after parturition. During pregnancy they are of an excito-motor and apyrexic character. They tend to cause abortion during pregnancy and eclampsia during labor. After parturition the reflexes are of an excito-secretory character, affecting the blood vessels, and marked by fever, congestion and inflammation. Quinine, by its contractile action on the capillaries of the cerebro-spinal centers, depresses the reflex excitability, and, except when injudiciously given, does not tend to produce abortion. Moderate cinchonism is one of the most efficient means of preventing threatened abortion and premature labor. During parturition it gives steadiness to the pains, and, when continued during labor, is a valuable prophylactic against eclampsia. The daily administration of quinine to the degree of moderate cinchonism from parturition until the completion of the normal involution tends greatly to prevent puerperal diseases.

Who are the Most Permanent and Luorative Patients?

This question was asked and answered by the Graphic not long ago, in an imaginary conversation supposed to have been conducted between a doctor and his patient. In the opinion of the supposed doctor women are the most lucrative patients, and to the question of the supposed patient as to the reason why, this imaginary doctor answered as follows: "Well, I think sometimes they had rather be sick and under a doctor's supervision than not. Another reason is that they are more perverse than men in clinging to the causes of their ailments. A man better realizes that without health he cannot carry on his business. So when he finds out the cause of disease he'll set to work to stop it. Tell a man he needs more fresh air and he'll try and get it. But most women won't. They squeeze themselves into corsets, and insist in being cured of ills caused by corsets, with pills. They'll go out in cold, damp weather in costumes which show off their figures and without cloaks, when the cold drives all the blood from their skin for hours. They'll insist on being cured by doctors and pills. They'll wear tight shoes, which deform and pain their feet, and this plan drawing indirectly from their strength, they'll insist on being cured by more pills. Nor is this all. But I shall tell you no more. It is giving the "profession" away. These things involve our most lucrative secrets. I shan't be thanked now by thousands of brother medical nurses of disease for what I have told. Go to, young man! Go to! You've got enough, and how in the world you've managed to worm out of me what you have is a mystery. Get thee to a nunnery! I'll never more have one such as thou pumping from me that information which is to me my professional life blood. Thou art an interviewer in the likeness of a sick man. Go to!"

Will Quinine Produce Abortion?

Dr. Otis Mason (Trans. Va. Med. Soc., 1881. Maryland Medical Journal) says that from an experience of forty years in the treatment of malarial fevers, he is confident that M. Petit Jean mistook a consequence of the intermittent fever for a result of the action of quinine, and that in his opinion quinine not only will not produce abortion, but that when properly administered it is a preventive of this unfortunate occurrence. He says that at the commencement of his career, when he was timid in the administration of quinine, abortion was no uncommon occurrence in pregnant women attacked with the various types of periodical fever and to whom no quinine had been given. Abortion is, according to this author, a frequent occurrence in fevers of all descriptions, and the female may consider herself fortunate in passing through the commotion of any fever without a premature expulsion of the fœtus. Since he commenced to employ quinine in liberal, yet reasonable, doses, in paroxysmal fevers, he has never observed abortion in patients affected with them. The author argues that it is reasonable to suppose that an agent which, when properly administered, will prevent the convulsive rigors of the cold stage, and the high febrile excitement of the exacerbation which follows, would be the best means of preventing abortion in those subject to such violent disturbing influences.

Very Obscure.

W. C. R., of Rockton, Ill., is making inquiries for the formula of iodia, a proprietary medicine employed quite extensively by the profession, and the formula of which purports to be published on the label. It seems that this gentleman has been attempting to reproduce the preparation from the formula as there published, but without success. So it seems that he then wrote to the owner of the compound, and also to the editors of the Druggists' Circular, but we judge from the following quotation from that journal that he received little satisfaction in either case: "The formula for iodia which you mention is apparently defective in some respects, but where the fault lies is more than we can tell. If the originator of the formula himself is, as you say, unable or unwilling to explain it, we cannot pretend to be wiser."

We have a number of times pointed to the fact that the true formula of the proprietary compounds advertised to the profession are not published and have called attention again and again to the importance of its bearing on medical literature. What will become of the literature of therapeutics if pharmacy becomes a lost art through lack of publication?

Treatment of Vomiting of Pregnancy.

Prof. C. Braun, of Vienna, treats vomiting in pregnancy by bathing the vaginal portion of the uterus with a ten per cent. solution of nitrate of silver. We notice in the Practitioner for June, in reports for the clinic of the month notes of a case reported by Dr. Braun to which he was summoned, the patient being regarded as moribund. The woman was in the first half of her pregnancy and extremely reduced in consequence of intractable vomiting.. The physician who had charge of the case had decided to produce premature delivery as a last resort; but Prof. Braun, who is opposed to this practice, decided to apply the nitrate of silver as described. This was done, and the surface quickly dried, to prevent further cauterization. It is said that the success of this treatment was so immediate and so great that an hour afterward the patient enjoyed a meal of roast veal, and there has been no vomiting since.

Cure of Tonsillitis and Enlarged Tonsils with Bicarbonate of Soda.

Seven cases of tonsillitis cured by the use of bicarbonate of soda are reported by Dr. Armangue in Revue de Therapeutique. This method was introduced by Dr. Gine, Professor of Clinical Surgery. What is still more remarkable, these cases are said to have all been cured in less than twenty-four hours. The mode of employing this agent is either by insufflation, or directly applied by the finger of the patient. The alleviation is almost always immediate, and rarely delayed more than twenty-four hours. The frequent application of bicarbonate of soda is said to reduce the size of the gland in hypertrophy and thus render excision of the tonsils unnecessary.

To Prevent Chrysophanic Acid Applications from Spoiling Bed Linen and Undercloth-ing.

Dr. Fox, of New York, gives in the Medical News the following directions to accomplish this object: Make a paste of the acid by rubbing it up with a sufficient quantity of water. In using this paste to apply to a psoriatic patch it should be smeared over the part previously cleaned of scales by a hot bath of soap, and friction. As soon as the paste has dried, which will be in a few minutes, a layer of collodion should be allowed to flow over each patch and harden into a protective coating. In several days, when it falls or is washed off, the application of paste and collodion should be repeated.

Asphyxia Neonatorum.

A paper read before the Paris Society of Practical Medicine, by Dr. Grenet, directs that infants who do not begin to breathe after birth should be plunged into a bath of hot water as warm as can be borne by the hand (120F°) while at the same time the arms are raised and lowered alternately to simulate natural breathing. In a moment or two, according to this author, the asphyxiated infant begins to grow rosy and to gasp, and presently cries out.

Pepsin to Remove the Membrane in Diphtheria.

The Medical Bulletin, of Philadelphia, calls attention to the use of pepsin in the treatment of diphtheria. Dr. Edwin Rosenthal, acting on the suggestion of Dr. L. Wolff, employs an acidulated concentrated solution of this drug as an application to the membrane formed during this disease, and reports that it acts like a charm, even in cases in which there seems to be no other help but tracheotomy. It dissolves the membrane, ad-

mits of free aeration of the blood, and places them soon on the road to convalescence. The solution he used was:

℞ Pepsin, ʒj.
Acidi hydrochlor. c. p., gtt. xx.
Aquæ q. s., ft ʒj.

M. S. Apply copiously every hour with a throat mop.

Decomposition of Nitro-Glycerine.

We notice in the Druggists' Circular that nitro-glycerine, when left to itself, frequently undergoes spontaneous decomposition, but when well purified, it may be kept for a long time without alteration. Gylcerine acid was found among the products of its slow decomposition; also, oxalic acid, and another acid not identified, which forms, with baryta, a soluble, uncrystallizable compound.

The Action of Alkalies on Pepsin.

The Druggists' Circular mentions that it is said that alkaline solutions of pepsin lose their digestive power; but whether they recover it or not, when again acidified, has not been proved. Opinions appear to differ.

Americans Take Warning.

The London Truth says that the following cheerful notice has recently been hung up, neatly framed, in the bed-rooms at the Langham Hotel:

"In case of the death of a visitor, the hotel charge, in addition to that for damage to linen, etc., and cleansing room, will be five guineas.

"Americans who contemplate cutting their throats, or blowing their brains out, and thereby soiling the linen and furniture of this hostelry, will please take warning."

Hypodermic Injections of Strychnia for Prolapsus Ani.

The American Medical Weekly mentions Dr. Leonard Webber's treatment of prolapsus of the anus by subcutaneous injections of strychnia. Dr. W. inserts the needle into the cellular tissue parallel to the rectum, and about three quarters of an inch from the anus, and injects one quarter of a grain for an adult. The operation is repeated every forty-eight hours until complete recovery takes place, and from four to eight injections are needed. The pain is not severe, and he has found no pain or abscess to result.

Iodoform in Gastric Ulcer.

Dr. M. J. Redmond (British Medical Journal) uses iodoform in the treatment of gastric ulcer, one three-grain pill three times a day. The vomiting of blood, which had been persistent, diminished under the influence of this drug and finally ceased; pain and tenderness decreased, and within a month the patient had entirely recovered.—*Detroit Clinic.*

A New Remedy for Tapeworm.

According to Dr. H. Witt (St. Petersburg Medical Weekly Journal, April, 1882), the alkaloid pelletierinum, lately extracted from the bark of the root of the pomegranate, is the most certain of all remedies for tapeworm. In five cases where all other remedies had failed, about twenty-two grains of this drug, followed by a tablespoonful of castor oil, killed the worm, which appeared unbroken in the stool. The remedy is said to be perfectly tasteless.

Book Reviews and Notices.

Materia Medica and Therapeutics. Inorganic substances. By Charles D. F. Phillips, M. D., Member of the Royal College of Physicians, etc.; late Lecturer on Materia Medica and Therapeutics at the Westminster Hospital Medical School. Edited and adapted to the U. S. Pharmacopœia. By Lawrence Johnson, A. M., M. D., Lecturer on Medical Botany, Medical Department of the University of the City of New York; Fellow of the New York Academy of Medicine, etc. Vols. i and ii.
New York: Wm. Wood & Co. 1882.

These volumes constitute the April and May numbers of the series of Wood's Library of Standard Medical Authors for 1882. Materia Medica and Therapeutics, Vegetable Kingdom, by the same author, appeared as the eighth volume of the same series in 1879, in the preface to which the volume before us was promised. That this work is so well completed and issued is complimentary to both author and publisher. In preparing it the author combines both pharmacology and therapeutics, while other authors separate them. Consequently more space is given to pharmaceutical chemistry than otherwise could be. The text is very full and explicit, and full credit is given to the authors of other treatises on the same subject, thus bringing the book fully up to the most recent information. To show our readers how the author treats his subject, we will take arsenic as a sample. First, the name, preparation and character, the various compounds, their preparation and character, the different tests, absorption and elimination, physiological effects, external and internal, on the digestive systems and circulatory systems, the respiratory and the cutaneous system, the mucous membranes, the glandular and osseous systems, the genito-urinary system, urinary excretion in relation to tissue changes, acute and chronic poisoning, pathological changes, tolerance, effects of arsenical wall paper, etc. Synergists, antagonists, incompatibles, therapeutic action, external and internal, and the diseases to which it is applicable. To this latter part twenty-six pages are devoted. In this way the inorganic materia medica, which may be considered as full and complete, is treated. Two full indexes complete the volume, one for remedies, the other for diseases. The three volumes of the author are a valuable part of Wood's series. It seems a pity they cannot be had separate.

The Incidental Effects of Drugs. A Pharmacological and Clinical Handbook, by Dr. L. Lewin, Assistant at the Pharmacological Institute of the University of Berlin. Translated by W. T. Alexander, M. D.
New York: William Wood & Co. 1882. Detroit: Thorndyke Nourse.

The object of the author is to picture to the reader the typical mode of action of individual drugs upon the system. The physician often observes, after the administration of his remedial agents, certain conditions or results which are neither contemplated nor expected from their action,

or resultant from the disease for which they are administered. These complications are annoying, and have a tendency to produce mistrust in the diagnosis of the case. This work is intended to relieve the mind of the prescriber, by placing before him the deviations from this typical action of remedies, and to shed light upon the unexpected phenomena which show themselves, and to furnish a guide for his practical interference.

The author has taken pains to collect these peculiar features of drug action, and has so arranged them in connection with the drug that the reader can readily recognize whether these abnormalities depend upon the disease, or arise from the action of the drug upon an individual idiosyncrasy. The idea of the author is original, and his observations as collected and personally observed, present to the reader a book of more than ordinary interest and value, and one that will interest him, even if his own observations are only corroborative.

A Revised and Enlarged Edition of Clark's New System of Electrical Medication. By A. W. Tipton, M. D., Jacksonville, Ill.
Chicago. 1882.

The author informs the reader in his preface that in the publishing of a revised and enlarged edition of Clark's work on "Electrical Medication," he has been prompted chiefly by a desire to bring this system, in its practical bearings, more prominently before the medical profession.

He claims that an experience of fifteen years fully prove the efficacy of this agent when properly applied in the case of disease. The objection to the work as a purely scientific one is the fact that it has been written for the unlearned as well as for the learned.

This composite arrangement must militate against its acceptability by the profession. Twenty-three pages are devoted to the introduction and the progress of electrical science, thirty pages to his theory and explanation of first principles, fifteen to the principles of practice in which he discusses the application of electricity to the cure of disease and especially his electro-magnetic machine, and the remainder of the book of over 256 pages to prescriptions Under this head the different diseases are taken up giving briefly, 1st, their symptomatology and 2nd, their electrical and medical treatment, also in most diseases the Homœopathic remedies. When the latter are not given it is to be presumed there is no specific in their pharmacopœia.

The book is handsomely printed on first class paper and neatly bound in best English cloth. Price, $3.00, library $4.00.

Diseases of the Pancreas and their Homœopathic Treatment. By A. R. Thomas, M. D., J. C. Morgan, M. D., A. Komdorfer, M. D., and G. A. Farrington, M. D.
Chicago: Duncan Brothers, Publishers, 1882.

Some time ago a committee consisting of the above named gentlemen were appointed as experts by the Homœopathic Medical Society of Philadelphia County to prepare an essay on some important medical subject. They chose the pancreas and its diseases. "Prof. Thomas," so says the preface "ably marked out the position of the organ, its size, shape and peculiar functions." In this part we find nothing but what is found in the usual text books on anatomy and physiology. Prof. Morgan "presented a digest of all that is really known of the etiology and special pathology of the singular diseases of the pancreas and their relations to those of other adjacent organs," most of which information can be found in "Diseases of the Pancreas," by Friedrich, Ziemssen's Cyclopœdia, Vol. 8. Prof. Komdorfer, outlined the differential diagnosis and prognosis of the pancreatic diseases. This he does by what he calls "impulsion," and although he gives a case in which an autopsy corroborated the diagnosis by this method, yet we opine the patient will present the same manifestations, should the stomach be involved or the impression be made on the cœliac axis. Prof. Farrington has selected the remedies, homœopathic, for pancreatic diseases and, evidently in order that some one of them may hit, presents nearly all the remedies of the H. Pharmacopœia. However, he lays no claim that any one of them will be beneficial or have the least influence over diseases of the pancreas. The claim that the pioneer work on diseases of the pancreas hails from homœopathic sources is, however, a mistake, when the foundation has been supplied by Friedrich and other writers before him.

The Psychology of the Salem Witchcraft Excitement of 1692, and its Practical Application to Our Own Time. By George M. Beard, A. M., M. D., member of the New York Neurological Society; of the American Neurological Association, etc. Author of Neurasthenia (nervous exhaustion), American Nervousness, etc.
New York: G. P. Putnam's Sons, 27 and 29 W. 23d street. 1882.
Detroit: J. McFarlane. Price $1.00.

This is rather an interesting brochure, and although the author some years ago while visiting Salem formed then a resolution to search out and solve, if might be, the psychological problems that were the bases of that delusion, yet we think the resolution would not have been carried out had not the case of Guiteau so strongly attracted and so deeply interested him. Indeed the author claims the parallelism between the Salem witchcraft trials and the trial of Guiteau as two excrements throwing light on each other. Even the case of Whittaker is claimed to be of the same class. The book is interesting reading, whether the reader does or does not endorse the views of the author.

Ninth and Tenth Annual Reports Relating to the Registry and Return of Births, Deaths and Marriages in Michigan for the years 1875 and 1876, by the Superintendent of Vital Statistics, under the general direction of the Secretary of State of the State of Michigan. By authority. Lansing, 1881.

We have received these volumes with the compliments of Henry B. Baker, M. D., superintendent of vital statistics, Lansing, Michigan. These reports are at least four if not five years behind, and consequently in the rapid growth of the state, with its internal improvements, boards of health, both state and local, cannot be of much value in a statistical point of view. The blame cannot rest upon the superintendent, for we knew his anxiety at the delay, which it is not in his power to correct. If the fault is in the law, the legislature should be invoked to correct it; if in the state department, the governor should see to it that the proper officers do their duty promptly.

These volumes make good health history and fill a niche in a library, but to the sanitarian or practical medicine man of to-day they are much too far back to shed much light on the issues of the

present. The volumes average about 335 pages and the subjects are well arranged and to each is added a full and copious index.

In the interest of the future we trust some plan will be developed whereby the printer will be enabled to deliver his work more promptly, so that the benefits expected to be derived can be made also of some present use.

Transactions of the Michigan State Medical Society for the year 1882.
Lansing, Mich.: Geo. E. Ranney, M. D., Secretary.

For the first time in the history of the society its transactions have been given its members in less time than sixty days. The committee of publication are certainly entitled to a vote of thanks. The address of the president, Dr. J. H. Jerome, gives a brief resumé of the organization of the society and the benefits to be derived from annual meetings of the profession; pays a high tribute to the Code of Ethics as the Magna Charta of individual and public weal and the underlying principle of professional life, and concludes with a tribute of respect to the memorial paper which chronicles the list of departed members.

Dr. E. P. Christian read a paper giving the history of two cases of mal-presentation: 1st. Presentation of head and buttock; 2nd, Leg and head presentation with spontaneous evolution; also some suggestions as to the causes of mal-presentations and some accidents of parturition. In this paper several mistakes of the printer occur which are corrected in a copious errata on the last page of the volume.

The volume also includes the following: The Insanity of Masturbation, by C. D. Burr, M. D., Insane Asylum, Pontiac, Mich.; Legal Responsibility of Surgeons for Ununited Fractures, by Foster Pratt, M. D., Kalamazoo, Mich.; Remarks on the Treatment of Laryngeal Phthisis, by E. L. Shurly, M. D., Detroit, Mich.; Cool Air, etc., in Measles and Scarlet Fever, by T. N. Reynolds, M. D., Detroit, Mich.; Suppurative Catarrh of the Middle Ear, by Eugene Smith, M. D., Detroit, Mich.; Optic Neuritis, Considered in some of its Relations to Cerebral Tumors: full history of a case by Leartus Connor, M. D., Detroit, Mich.; The After Treatment of Trachetomy: cases by Henry J. Reynolds, M. D., Orion, Mich.; Antisepsis in the Treatment of Disease, by D. W. C. Wade, M. D., Holly, Mich.; Æsthetics in Medicine, a poem, by E. B. Ward, M. D., Lansing, Mich.; Urinary Deposits and their Relation to Health and Disease, by Julius Post, M. D., Lansing, Mich.; Notes on Urinary Tumors, by Geo. E. Ranney, M. D., Lansing, Mich.

Many of these papers were of more than ordinary interest, and will well repay the time spent in reading them. Considerable discussion appears to have been had on the propriety of giving the papers read before the association to the medical journals, as is done in some of the other states, in the discretion of their authors, but it was voted to continue their publication in the annual volume. The roll of membership is 250.

One word as to the personal of the volume. The cover is plain and neat; the typography and the quality of the paper could be much improved upon, especially as there was no necessity for cheapness. The credit of the State Medical Society demands for a higher order of work and material in its annual transactions.

We are in receipt of an announcement from Mr. George S. Davis, our publisher, that he has in press a translation of Dr. L. Lewin's work on the "Untoward Action of Drugs." Inasmuch as this translation is being conducted under the supervision of the author who is also making additions to the text, it will be practically a second edition of this valuable work. It will appear inside of three months and will thus be given in the English language in this country before it appears in such second edition in the original tongue.

Reports.

Report of the Resident Physician of Brigham Hall Hospital for the Insane, for the year 1882. Canandaigua, N. Y.

Report of the Medical Superintendent of the Asylum for the Insane, Toronto, Ont., for the year ending September 30, 1881.

Report on Surgery. By W. O. Roberts, M. D, Professor of Surgical Pathology and Operative Surgery, University of Louisville, Louisville, Ky.

Annual Announcements.

Twenty-Second Annual Announcement of the Bellevue Hospital Medical College, 1882-3. New York. Session begins September 20, 1882.

Columbus Medical College. Eighth Annual Announcement. Columbus, Ohio. Session begins September 6, 1882.

Medical Department Arkansas Industrial University. Fourth Annual Announcement. Session begins October 5, 1882. Little Rock, Ark.

Woman's Medical College Bulletin. No. 126 N. Eutaw Street, Woman's Medical College of Pennsylvania. Philadelphia. Thirty-third Annual Announcement. Session opens October 5, 1882.

Chicago Medical College. Session of 1882-3 begins last Tuesday in September. Chicago, Ill.

California Medical College (Eclectic). Oakland, Cal. Session begins November 6, 1882.

Physio-Medical College of Indiana. Indianapolis, Ind. Session begins October 10, 1882.

Trinity Medical School. Toronto, Ont. Session begins October 2, 1882.

College Physicians and Surgeons. New York City. Seventy-fifth annual catalogue. Session begins October 2d, 1882, and continues seven months.

Medical Department University of Louisville. Forty-sixth annual announcement. Open October 2d, 1882, and continues five months.

Medical Department University of the City of New York. Opens October 4th, 1882, and ends the middle of March, 1883.

Medical College of Ohio. Session of 1882-3 opens October 2d and ends March 1st.

The Medical Chronicle. Baltimore Maryland; monthly; $1.00 per annum. Geo. H. Rohé, M. D., editor.

The editor says: "At present there is no other monthly medical journal published in the limits of Maryland, Delaware and the District of Columbia," and he sees no reason why the Chronicle should not succeed. We coincide with him and extend fraternal greetings.

Detroit Medical College. Annual announcement for 1882-3. Regular session will open September 13th, 1882, and closes March 9th, 1883.

Therapeutic Progress.

NOTES ON THE USE OF NITRO-GLYCERINE IN THE TREATMENT OF HEART DISEASE.—I propose to bring before you certain results obtained by me in the treatment of heart disease with a somewhat recent remedy, viz., nitro-glycerine. This is a most potent remedy, and I believe I am not overstating its merits when I say that it deserves to rank only second to digitalis in the treatment of disease of the heart.

The action of this drug, which was first noticed by Field, of Brighton, has been experimented upon by various observers, chief among whom may be mentioned Hering, Demme, Alders, Onsum, Brady, Pelikan, Thorowgood, Eulenberg, and Werber. In 1876 Dr. Lauder Brunton wrote a valuable paper in the St. Bartholomew's Hospital Reports detailing its peculiar physiological action upon animals, as tested in the Pharmacological Laboratory of that hospital. It is to Dr. William Murrell, however, that the medical profession is chiefly indebted for introducing it as being of great value in the treatment of certain diseases. From a consideration of the physiological action of this substance, and especially from the similarity existing between the general action and that of nitrite of amyl, as set forth by Dr. L. Brunton, Dr. Murrell was led to infer that it would probably be of service in the treatment of angina pectoris, and his result may be seen by a reference to his valuable paper in the Lancet of the earlier part of the year 1879.

I will briefly detail its mode of action and the preparation usually employed.

The solution is the form most generally used, and this is a one per cent. solution in spirits of wine: one minim is the usual dose to commence with, but in some cases even less may be given with advantage. It can either be taken in water or one drop may be placed upon the tongue. The solution is almost tasteless, but within three minutes of being taken it begins to exert its peculiar physiological properties. It paralyzes the vaso-motor nerves, and so dilates the blood-vessels; the face flushes, the temples throb, the pulse becomes dicrotic and much quickened; in some cases the head aches most violently, but in others only a sense of fullness and pain across the forehead is experienced, which lessens with each recurring dose, until ultimately no unpleasant effect, but simply a warming sensation all over the body, is produced.

A feeling of nausea, or even sickness, is often caused by the earlier doses. The quantity may be gradually increased until 15 or 20 minims every four hours are given, but I have never found it necessary to administer such heroic doses. It is never wise to give more than one minim at first, for even this small quantity has produced most serious symptoms in certain individuals. The patient has fainted, and has become almost collapsed, but I am not aware that it has ever been followed by a fatal result. I have never myself seen these alarming symptoms, but in two cases have found unpleasant symptoms to succeed a first dose, both cases occurring in hysterical women. The medicine in one case, was taken without my being consulted (the patient having seen it produce good effects in her father's case); in the other, I prescribed it for certain nervous symptoms, but, at that time, not having had so much experience in its use, I did not like to persevere. The physiological effect of nitro-glycerine is not so rapidly produced as is that of nitrite of amyl, but it continues from four to six, or even eight hours, after which time it is often advisable to repeat it.

I have never found it produce unpleasant effects in any case where its use was plainly indicated; and each day's experience more clearly shows the cases likely to be benefitted by it.

While useful in almost all cases of heart disease, I believe those in which it will be found of the greatest benefit are, 1st, angina pectoris, and 2d, weak, dilated, and fatty heart. In angina it prevents an attack by keeping the blood-vessels in a constantly dilated condition, and thus prevents the backward pressure of blood upon the heart, which is probably the cause of the agonizing pain of angina.

In weak dilated hearts it gives relief by reducing arterial tension and thus lessening the amount of work the heart has to do; the heart, consequently, gains in power by the rest so given to it. As a rule, digitalis does not agree in these cases; but if thought necessary, it may be given with increased advantage in conjunction with this drug. In several cases of dilated heart, with small, weak, quick pulse, I have seen the beats not only increased in power, but much reduced in frequency, after taking nitro-glycerine for a few days, thus plainly showing that the heart had been relieved of much of its embarrassment, and as a consequence had gained in power. I have used this drug largely during more than two years, and each week my appreciation of its value as a remedy for this class of cases increases. There are numerous other affections in which it will prove of value, but such do not come within the scope of my present paper. Bearing in mind its physiological action, it will be easy for you to select the case in which its use is indicated.

The following are notes of a few cases which I consider are conclusive of its value, and which will, I trust, prove of interest:

Mrs. H., æt. 60. A spare, delicate, nervous woman, has frequently been under my care during the past three years, sometimes, with severe attacks of bronchitis; at others, with neuralgic pains of an ill-defined character, but more frequently in the intercostal nerves, with extensions of pain to the left shoulder; moreover, there was always a dread of something pending, though she could not define its nature. The heart, though weak in action, was sound, although palpitations were complained of after the slightest exertion.

About 2 A. M., on Nov. 11, 1879, my services were called into requisition for a most severe attack of angina pectoris. Nitrite of amyl was immediately used and a subcutaneous injection of morphia given, with the effect of freeing the patient from her attack, and inducing a sound sleep at the end of about an hour and a half.

Nov. 11, 10 A. M.—Has had seven hours sound sleep and feels better, but is dreading the approach of night and the advent of another attack, thinking she could not possibly survive it. Examination of the heart shows me that there is a soft mitral systolic murmur which is probably due to strain of the valve produced by the backward pressure of the blood at the time of the attack. One-minim doses of solution of nitro-glycerine are ordered three times a day with considerable relief, but it was difficult to get the patient to take the remedy regularly on account of the unpleasant headache it caused. Nitrite of amyl to be kept in the house in case of need. The patient was so nervous and dreaded so much the recurrence of another attack, that she went far towards producing slight attacks upon the succeeding nights. On the 13th, therefore, she was ordered a draught of chloral and hyoscyamus at bedtime, with the result of inducing a night of sound sleep. She improved rapidly, and was allowed to go down stairs on the 24th inst. The exertion was apparently too great, for about 2:30 A. M. the next day, she had her most serious attack. The previous treatment relieved her, but a recurrence took place early on the morning of the 27th. Upon this day Dr. Coghill saw her, and suggested a night pill, containing quiniæ sulph. grs. 3, pulv. opii, gr. ½, ext. ballad. gr. ½. This was given for two nights and then had to be discontinued, owing to certain unpleasant effects produced. Each of these nights the patient

had an attack. I then gave her a draught containing chloral, cinchona, and conium, at bedtime, which draught was continued until the patient was convalescent, but the chloral and conium were gradually left out without the knowledge of the patient. During the whole of this time the solution of nitro-glycerine was continued, being increased slightly on the 27th, and to m. 1¼ every four hours after the 30th, in conjunction with cinchona and Virginian prune. The patient steadily improved during the month of December, but was not allowed to go down stairs until her strength was much greater. She gradually lost her dread of an impending attack, and then permitted herself to leave off the night draught of cinchona. On Jan. 1, 1880, a pill of phosphorus, reduced iron, and nux vomica, was given and continued for a month, but during this time a night dose of nitro-glycerine was given. Since Feb. 1 has daily taken two doses of nitro-glycerine, combined with cinchona and Virginian prune, and the result has been most gratifying. She is now feeling better than she has done for some years; from being spare, she has become stout, and the mitral bruit has entirely disappeared. During the summer of 1880 she passed easily through a severe attack of bronchitis, and at the present time is in the enjoyment of perfect health.

Mrs. G,, æt. 75, a thin, spare woman, suffers from attacks of angina pectoris. Upon March 15, 1880, she had a severe attack, for which nitro-glycerine was prescribed, with the result of giving almost immediate relief to the symptoms and a sound night's rest. Since this time the patient has continued to take a mixture containing nitro-glycerine, cinchona and Virginian prune, and there has been an entire immunity from attacks. The mixture is not taken every day, but is kept in the house, and whenever any premonitory symptoms are felt and an attack recognized to be imminent, recourse is had to it with immediate advantage. This patient, who before was in a constant suspense and misery at the anticipation of an attack, has never since required my professional services, and leads a life of comfort and happiness, having no longer any dread of her old enemy. Dec. 22, 1881, continues in capital health, takes medicine regularly, and has gained flesh.

Mr. J. E., æt. 70, came under my care some two years ago. This patient was a spare man of active but methodical habits, and had come to reside in Sandown on account of his health, being subject to occasional faintings which evidently arose from the condition of his heart. When I first attended him, his pulse, which was full and bounding, appeared to me to intermit every other beat, but a little care showed me that it was one of those rare cases in which the heart's action was very slow; it was, in fact, only beating at the rate of 34 per minute. The heart's sounds were in every respect normal, and also the area of dullness. The patient told me that for some years the pulse had gradually become slower, and he had been subject to these fainting attacks, which occurred without any warning. He was recommended to carry nitrite of amyl continually with him, in case a fainting attack should occur. About 7 A. M., one cold morning in December, 1879, I was hastily summoned, and found him lying on the floor and perfectly insensible. Nitrite of amyl had been administered to him. I immedietely made use of a larger quantity, but with no effect other than to show that he was still living. After this I administered one minim of nitro-glycerine in a little water. It had not been swallowed five minutes before the flush returned to the cheeks, consciousness followed, and he began to ask questions concerning the attack. It appears the old gentleman had always been an early riser, and had not waited for a fire to be lighted to warm his bed-room, the result of which was, that the cutaneous vessels had become much contracted, thus forcing an extra amount of work upon a weak heart. He was also excited at the prospect of a political speech he was expected to make at a neighboring town that evening, which no doubt conduced to heighten the effect of the cold upon the blood-vessels. The result of this attack was to greatly strain the mitral valves, and a loud systolic bruit exists to this day. The pulse for some months before was at 32, and since the attack it continues the same, but is much softer in character than before. There has been only one slight attack of fainting since. The convalescence was tedious, but appeared to be helped by digitaline and nitro-glycerine. The general health of the patient now appears as good as ever.

Mrs. P., æt. 65, first came under treatment in August, 1879. She was suffering at that time from abdominal dropsy, which appeared to be caused by some portal obstruction. She was also suffering from a presystolic mitral murmur, accompanied with almost incessant cough and bronchorrhœa. The heart was much dilated and pulse rarely less than 120 per minute. The dropsy was gradually overcome by tonics and purgatives, but the patient's condition had improved much when April, 1880, arrived. Digitalis appeared to disagree in all forms, until the active principle in milligramme doses was given, when improvement became more rapid. Shortly after this time I gave a mixture containing cinchona and half-minim doses of nitro-glycerine, after which the patient so much improved that she could get down stairs and even out of doors. I did not, at that time, pay much attention to the nitro-glycerine as being the cause of this, but was more inclined to attribute it to Homolle's digitaline granules, which had been taken regularly. The mixture was dropped and the perles continued throughout the summer, the patient, for her, being fairly well. About the middle of August she caught cold, the result of which was a severe attack of bronchitis. The patient could not lie down in bed, and the cough was most distressing; by the aid of diffusible stimulants this was relieved, but the heart was much weaker, the cough and bronchorrhœa excessive and exhausting. She was seen by Dr. Milner Fothergill on Sept. 20, who, while concurring in the treatment which had been adopted, told her she had better follow the good old Cumberland fashion amongst old people, and retire to bed for the winter. This advice, though not palatable, the patient was inclined to adopt; she did not improve with it, but, on the contrary, got weaker, the cough was more incessant, and I was fairly puzzled what to do next, when it fortunately occurred to me that the improvement which had taken place before was after having taken the nitro-glycerine, so I determined to give her some again. At this time she was taking four milligrammes of digitaline during the 24 hours, one twice during the day, and one at bedtime. One of the granules at bedtime was stopped, and one minim of the 1 per cent. solution of the nitro-glycerine substituted with the result of giving her a good night's rest. This dose was continued for some days and the improvement was so great that the patient was able to sit up, but not to leave her bed-room. After a few days the granules were reduced to one each night and morning, and after a month of this treatment I tried the use of nitro-glycerine alone at bedtime, and rather to my surprise found she was considerably better with this remedy—the difficulty of breathing, cough, and bronchorrhœa were greatly improved and she was soon able to come down stairs, which she occasionally did throughout the whole of the past severe winter, and at the present time is able to get out of doors and walk in the garden. The improvement in the patient's face has been most marked; the eyes, from being always bloodshot, are quite clear; the lips and cheeks, from a purple tint, have regained their natural hue, the appetite has vastly improved, the bronchorrhœa during the day has entirely ceased, and is considerably better at night. The nitro-glycerine is always taken at bedtime and is sometimes repeated during the night.

The dose, although it has been taken for months, has never been increased. Altogether my patient is in a better condition of health than she has been for the past three or four years.

Bridget D., æt. 11, came under my notice about Nov. 5, 1880. She has suffered from rheumatic fever twice, and is now in a very debilitated condition. A low mitral systolic murmur exists. She was treated with quinine, iron, and digitalis with satisfactory results. On Sunday evening, Jan. 3, 1881, after playing out of doors in a very bleak wind, she was suddenly seized at bedtime with acute dyspnœa, which so alarmed her friends that they had recourse to me. My friend, Dr. Baker, saw the patient immediately and found her suffering from acute congestion of both lungs, rapid breathing, purple lips, and pale cheeks; pulse so rapid as to be uncountable, and both lungs engorged with blood. He immediately ordered a mustard jacket, etc., and returned to me saying it was an acute case of double pneumonia, and that she probably would hardly survive the hour, and suggested bleeding. Knowing the debilitated condition of the child, I suggested bleeding the patient into her own blood-vessels by dilating them with nitro-glycerine. We returned together to the case and found the patient somewhat better. The jacket had relieved the heart, but it was still beating nearly 200 times in the minute, and the lungs were still engorged. One minim of nitro-glycerine was at once given with its usual effect of dilating the blood vessels and flushing the face, and giving relief to the apoplectic condition of the lungs, with slower action of the heart. An hour afterwards a milligramme of digitaline was given, which still further improved the power of the heart, and the patient gradually recovered. The nitro-glycerine was given every four hours combined with tincture of digitalis, and the patient made a satisfactory recovery.

My opinion of this case was that the cold air contracted the cutaneous blood-vessels, thus rendering the work of the heart laborious, the weak heart failed, and engorgement of both lungs (called in some old medical works pneumonic apoplexy) followed as a natural consequence, and would rapidly have proved fatal had not Dr. Baker's mustard jacket supplied a necessary stimulus to the heart, and also to a certain extent relieved its action, by dilating those cutaneous blood-vessels which were in its immediate vicinity. This was afterwards more effectively and extensively done by means of the nitro-glycerine, and to this and to the increased power given the heart by means of the digitalis I ascribe in a great measure the satisfactory result.

I could relate numerous other cases showing the value of this remedy in heart disease, but have already trespassed too much upon the limited time at our disposal to-day; the cases cited, however, are sufficient to prove that in this new agent we have a very powerful measure in diseases of the heart. It is a remedy, moreover, which is not only palliative, but in many cases actually curative; and I think I may lay claim to having discovered its application to a much larger and more common class of cases than those originally laid down by its introducer, Dr. Murrell.—W. E. Green, M. R. C. S., L. S. A., in *The Practitioner*.

Medicine and the Patent Law.—A great deal of misunderstanding seems to exist in the medical profession in regard to the purpose and intents of the patent law. It is commonly believed that a patent prevents competition, that it retards progress in science and the useful arts, and that, in every other way, it is to be condemned, especially if associated with medicine. No scientific man in any profession, it is urged, would take advantage of the patent law. A scientist is one who gives his knowledge gratuitously for the benefit of humanity, and all scientific work should be done *pro bono publico*. This ideal has become so ingrafted into the public idea that the majority are too apt to leave the doctor's bill the last on the list, when pay-day comes around. This feeling is especially strong in case of medical charities, for the donator of a few hundred dollars receives greater public credit than the physician who gives time of much more value in monetary return. But beneficence is not science, and the workman is worthy of his hire.

The demands of science are classified by two questions: How shall we obtain knowledge? What shall we do with it? Knowledge must be obtained and disposed of in a scientific way, to be of scientific value. All knowledge is from the same source—the unknown. The prehensive organ for obtaining a fact is exact observation. Many theories once supposed correct, from lack of exactness upon the part of the discoverer, have been left for a closer observer to upset. Obtained, the fact must be rationally explained in relation with the facts. An isolated fact of no practical value in itself, explained in relation to other facts, has turned out to be a capstone or head of a corner in the building of science.

Whether a fact can be explained or not, it must be preserved. If lost, the building cannot be completed. No fact is so small as to be unimportant.

For the preservation of facts, the process is simple. They must be embalmed, or they will not keep. Not embalmed by the process employed by the ancient Egyptians in preserving mummies, for that process, because it was not also embalmed, has become a lost art. The first steps in the process of embalming facts, is to put them in a form of language that will be exactly understood by future generations, so long as the world shall last. The nomenclature of facts must be fixed, definite, changeless. For this reason, scientific nomenclature is usually represented by a dead language, appropriate for interment. Embalmed in the myrrh and spices of definite nomenclature, each fact is now wrapped in the indestructible winding-sheet of standard literature, labeled with a name which shall represent it and no other, classified, and laid away in the tomb of science; and future generations, thousands of years from hence, in studying the customs and civilization of the present, shall find the results of the investigations of scientists in the nineteenth century preserved in a form easily understood and applied.

But science is living truth as well as buried facts. Each idea clipped from the vast mountain of the unknown, classified into the forms of science, has helped to build up a small mound which constitutes science as we see it. But when all knowledge is revealed we shall find it in fixed and definite form, protected and governed by the never-changing laws which scientists are now endeavoring to discover.

No definition of science is more comprehensive than that formulated by President Porter, of Yale College, in his work on Psychology. "Science professes to exhibit what is actually known, or may be learned, by exact observation, precise definition, fixed terminology, classified arrangement, and rational explanation."

From science, let us turn to contemplate art. Art is science skillfully applied. No matter how much knowledge a man may possess, unless he can apply it skillfully to some practical use, it is of very little worth to him. It is art that skills the surgeon's knife; art shaped the blade, made the steel, and manufactured the material for suture, bandage and adhesive strip; and it is skill, in the application of knowledge, that determines between the quality of surgeons, the quality of steel, and the quality of the material used in dressing the wound.

The knowledge of experience, in its application in the hands of those practicing the art, classified

in the forms of science, constitutes the science upon which that art depends. Progress in science, and the useful arts is, therefore, most rapid when the knowledge of the results of experience thus obtained is published for public benefit.

For the purpose of promoting progress in science and the useful arts, the patent law was devised. Its object is to secure the publication of the experience of those engaged in practicing the arts, for the benefit of science and the arts. Recognizing that the tendency is for inventors to keep the knowledge of their discoveries to themselves, for the purpose of turning them to pecuniary advantages, it grants an exclusive use of the thing invented for a limited time, in exchange for the publication thereof, so that the public may manufacture the invention when the patent expires. The knowledge of each invention, therefore, at once becomes an item of scientific information, and the thing itself, public property, when the patent expires. The limited control protects capital and makes every invention a valuable article of trade. This greatly aids the general use of the thing invented, and the diffusion of the knowledge concerning it, and the publication of full knowledge thereof, whereby the public may manufacture the invention, in the standard literature of the official records kept by the patent-office, preserves every art patented from ever being lost. The patent law is thus scientific and beneficent in its theory.

Related to the science of medicine are a number of arts, among which surgery, diagnosis, therapeutics and pharmacy are classed, as well as other arts of as great or lesser importance. Pharmacy is the art of preparing medicine. Pharmacy requires a knowledge of materia medica and therapeutics, for without a knowledge of the substances used in medicine, and of their application, pharmacy cannot exist. These three decisions are embraced under the general term Pharmacology. For this classification the reader is referred to H. C. Wood's work on Materia Medica and Therapeutics.

Pharmacology, or the science of drugs, embraces, therefore, a knowledge of the drugs themselves and their preparation and application to the cure of disease. Though a branch of the science of medicine, intimately associated and dependent upon other knowledge, the pharmacology may be regarded, in a sense, as a science by itself.

Patents, as applied to the pharmacology, should be for the purpose of promoting progress in science and the useful arts of pharmacy and therapeutics. For that purpose they should secure the publication of every invention, grant a limited control to the inventor, and not interfere, in any way, with the cause of suffering humanity.

As applied to the materia medica, the patenting of a drug cannot be maintained. A drug is a natural product, and, from the nature of the case, common property. This distinction is recognized by the patent law, and the free use of natural products, forces, principles and laws, are open to all. The patent law grants a limited control to the inventor of a new and useful machine for generating electricity, or applying it to the art, but permits no patent upon the free use of electricity itself. Patents on the materia medica are, therefore, excluded.

As applied to the art of therapeutics, granting a patent to physicians for their prescriptions would seriously interfere, in many ways, with the treatment of the sick. For example, suppose an instance: Let A, living in San Francisco, invent a process for the positive cure of consumption, and patent his invention. C, who resides in New York, a poor laborer, is taken with the disease. To be cured, he must, in some way, obtain the benefit of A's invention. But A proposes to make money by his discovery. He, therefore, charges an exorbitant price, which none but the wealthy can afford, and the poor man dies. Surely, money made in such a way would be "blood-money" indeed, and his brother's blood would cry up from the ground in accusation against him. A therapeutic patent is not, therefore, safe public policy. And the same rule applies to the manufacturer as to the physician. In either case the patent is the same and has the same power, that of granting an exclusive control to the inventor. A therapeutic patent granted to a manufacturer, makes him virtually the master of the position; for, by the patent law, the use of the same thing, or its equivalent, for the same purpose by another, is infringement. By this ruling the physician who writes a prescription containing ingredients or their equivalents, employed in a patented compound, to produce the same effects claimed for that compound, is guilty of infringement, and can be dealt with according to law.

Again, the patent law demands invention, and that the invention shall be new and useful, and not in prior use, or published in literature in this country or any other country. An aggregation of old and well-known drugs cannot be regarded as a new and useful invention not in prior use, for the public learn nothing that they might not have known before by referring to any text-book on materia medica and therapeutics.

Properly applied to pharmacy, however, the patent law can only be productive of benefit. The limited control of processes and machinery for manufacture, provided that full knowledge thereof is published for the benefit of science and the art of pharmacy, will stimulate the invention of improvements to attain the same end, protect capital, and discourage secrecy in the manufacture of medicine. Here can be displayed the wise provisions of the patent law.

Medicines are rarely patented, however, owing to the stringent requirements of the patent law. A very different and entirely opposite system is adopted in case of the so-called "Patent" or "Proprietary" medicines. The secret of protection in this system is the ownership of the name. Property in the name is supposed to be acquired by claiming it as a trade-mark. The ownership of the name of a thing prevents any one else from manufacturing the thing under its own name, and from an equal chance in manufacturing the same thing under another name. The formula for Helmbold's Buchu is in my possession, but it is manifest that I cannot compete in its manufacture under any other name. By usage, the name of a thing becomes part of the common language. It is the only name by which the thing is known. For this reason, the manufacturer of the same thing, under another name, would not have an equal chance with his fellow until the new name is equally incorporated in the language. And as the use of a trade-mark is unlimited by time, and does not require publication of the knowledge of the art by which a thing is manufactured; and as a trade-mark is a thing of common law and natural right, and protected by international law, and not a creature of statute and of grant, and subject to certain provisions incorporated in the statutes and in the grants, as in case of a patent, it follows that if the name of a thing can be legally held as a trade-mark on the thing itself, and competition prevented thereby, then can every invention be locked up to secrecy and an everlasting monopoly. Surely, such a system is, to the last extent, unscientific, and detrimental to the interests of the public.

"Patent" medicines all belong to the same system, whether advertised in the medical journals or in the secular and religious press. The control in either case is the ownership of the name. Trade secrets unprotected will out in time, and secret formulæ in themselves are the least harmful of the two. But, before a remedy can be regarded as scientific, not only the medicinal ingredients must be given, but the art of manufacture published and put on record in standard literature, and each

compound provided with one fixed unalterable name, free to the use of all. Unless this demand be complied with, therapeutic literature and medical text-books will have occasion to lament the use of names, which, in future generations, will represent things no longer in existence. There is danger that much of the pharmacy of the past fifteen years may become a lost art.

The attention of the profession is, therefore, again called to the "Resolution at Richmond." This resolution should read:

Resolved, That it is against the spirit of the Code of Ethics for a physician to prescribe a remedy controlled in an unscientific manner by a patent, trade-mark or copyright. This shall except, however, a patent upon a process or machinery for manufacture. It shall also except a trade-mark used to designate a brand of manufacture, provided the article so marked be accompanied by the working formula thereof, duly sworn to, and a technically correct scientific name, under which any one can compete in manufacturing the same article.

This resolution is founded upon the clause in the Code of Ethics of the American Medical Association, which reads as follows:

On the duties of physicians to each other and the profession at large.

Article 1, Section 4.—Equally derogatory to professional character it is for a physician to hold a patent for any surgical instrument or medicine, or dispense a secret nostrum, whether it be the compound or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone give it value and importance, such craft either implies disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.—F. E. Stewart, Ph. G., M. D., in the *Medical Herald*.

Brevities.—For the following concentrated essence of recent medical literature we are indebted to the Australian Medical Journal:

Cotton wool saturated with a mixture of equal parts of chloral and carbolic acid and allowed to dry, makes a good pledget for toothache.

For dissolving gall-stones the hydrated succinate of peroxide of iron, gr. x. ter in die in aqua menth. pip., is reported successful.

Five parts of carbolic acid dissolved in an equal quantity of alcohol, to which six parts of liq. ammon. and ten of water are afterwards added, makes a good inhalation in chronic bronchial catarrh.

For profuse diarrhœa Fothergill recommends am. carb. gr. v., Tinct. opii m. x., Inf. hæmatox ʒ j. every three hours.

Nitrate of silver, hypodermically 5 drops of a 1 to 4 solution, has cured sciatica; great pain follows, and a small abscess forms.

Professor Nussbaum advocates the passing of an act rendering the omission of antiseptic precautions in surgery criminal.

Professor Keith has given up the use of the antiseptic treatment. From using the carbolic acid so much he got renal hæmorrhage himself. Lister himself has lately expressed his doubts as to its efficacy.

The ripe tomato is said to be curative of sore mouth, when eaten in the ordinary way.

Tincture of dogwood (*Piscidia Erythrina*) in ʒ ss. to ʒ j. doses is useful in shock with pain and for neuralgia.

Cascara sagrada is a favorite American remedy for costiveness.

The eucalyptus tincture, m. xx. every three hours, is valuable in chronic cystitis with hæmaturia.

Tincture of *Actinomeris Helianthoides* (gravel weed) in doses of ʒ j. to ʒ ii. every hour is useful in acute gravel.

From India Dr. Saunders reports the successful use of amyl nitrite in ague. The drug is mixed with equal parts of oil of coriander to make it less volatile, and four drops are inhaled from lint till the patient gets flushed and warm; perspiration follows, and the attack is checked.

Quebracho ext. fluid, m. xx. to lx. every hour or two, is reported by Ringer as useful in dyspnœa.

Nerve-stretching has been suggested as a curative of tetanus.

Cinchonidia (gr. 5) and tinct. ferri. mur. (m. xx.) in water every three hours is a good prescription for glossitis

Picrotoxine has been found to produce an artificial epilepsy.

Amyl nitrate inhalation is a good antidote in opium-poisoning,

Chloro-phosphide of arsenic (m. 10 of Routh's solution) is useful in hay fever.

For diphtheria the following is recommended:—Pilocarpin, gr. ½; pepsin, gr. j.; acid hydroch., m. 3; aq. dest., ʒ ij.ss.; a teaspoonful hourly.

Chloral has been found beneficial in asthma.

Acid boracic, pt. i.; warm water, pts. xx.; hot glycerine, pts. v., is given by Rosenthal in teaspoonful doses, largely diluted, once or twice a day for catarrh of the bladder.

A poultice of two parts of linseed-meal and one of jaborandi-leaves will be found very effective in mastitis.

Citrate of caffein in 3-grain doses thrice daily is a valuable diuretic.

Benzoate of calcium (gr. x. in water) every three hours is an efficient drug in the albuminuria of pregnancy.

Parsley-leaves applied locally several times a day will suppress the secretion of milk.

Naphthol, 10 to 15 per cent. in ointment, is beneficial and cleanly in skin diseases.

Iodoform externally and internally is reported as useful in goitre.

Phosphate and hypophosphite of calcium is recommended in pregnancy to prevent the decay of the teeth.

Cocoa is credited with being a cure for morphinism.

An ointment of salicylic acid and vaseline will cure carbolic eczema.

Maclagan obtains the best results in gonorrhœal rheumatism by administering chlorate potass., gr. x.; and liquor ferri perchloridi, m. xx., every three hours.

Grindelia Robusta, an excellent remedy in some cases of asthma.

Coto-bark, very good in the night sweats of phthisis.

Sulphurous acid, 1 to 15 parts of water, always cured gonorrhœa (Mr. W. D. Wilson).

Carbolic acid (m. j. for a child of two years) is often efficacious in whooping cough.

We have a new galactagogue in ditana digitifolia, a native of Brazil.

A good application for lupus vulgaris—iodoform. —*The Chemist and Druggist.*

The Patent Medicine Trade in Danger.—We observe that Parke, Davis & Co., the enterprising firm of pharmacists in Detroit, are waging an active warfare against the patent medicine business, and that they have in consequence excited much wincing among those who are galled by their course. We confess to a feeling of dissatisfaction when they first announced the "Tonga" as a valuable remedy found or produced in the Fiji Islands. The thing looked too sensational. But we overlooked the fact that the article had been long known under that name, and that it had

been described and its therapeutic powers tested by Sidney Ringer and others. When the London firm sued them for the use of the word, under the claim of an exclusive right of ownership as a trade-mark, we were pleased with the final success of Parke, Davis & Co., through the withdrawal of the suit by their opponents. And we were still more pleased when the Detroit firm entered on a a bold campaign against the patent medicine and trade-mark business, in other words against empirical pharmacy. The enormous proportions assumed by this business may be noted on entering any of our wholesale drug houses, which will be found crammed from cellar to roof with packages of patent medicines of a hundred kinds. We are glad to see the movement, not only of Parke, Davis & Co., but of associated pharmacists in various quarters, directed against the same abuse, and we hope it is the beginning of a movement that will sever the abuse from regular pharmacy and cleanse our drug stores from the filthiness.—*Pacific Medical and Surgical Journal*, April, 1882.

Corrassa Compound.—A. M. Martin, of Red Oak, Iowa, communicates to the American Journal of Pharmacy the following interesting exposure of quackery in a favorite disguise: "Having long seen the advertisement of 'Rev. Jos. T. Inman, Station D, N. Y. City,' offering, gratis, 'a recipe for the speedy cure of all diseases brought on by errors of youth,' etc., and believing him to be one of those who prey upon this unfortunate class, I sent for the 'recipe.' It is as follows:

Extract of corrassa apimis, 3 viij.
Extract of selarmo umbelifera, 3 jv.
Powdered alkermes latifolia, 3 iij.
Extract of carsadoc herbalis, 3 vj.

"This mysterious formula is accompanied by minute directions and a lengthy and pathetic history of its discovery in 'South America.'

"It is needless to add that the 'Rev.' very kindly offers to send a package on receipt of $3.50—'actual cost.'

"The above is but one address under which this same man sails; 'Geo. B. Tuttle, 31 Maiden Lane, N. Y.,' will bring the same circular and recipe—only with different name.

"Believing it to be the duty of all honest men (pharmacists especially, as they have greater opportunities to do so) to expose such frauds and quack nostrums generally, I send this to the Journal."—*The Druggist.*

Place Where Pepsin is Formed.—When pepsin, a natural ferment capable of dissolving fibrine, was first discovered, some forty years ago, it was thought that it was produced only by the mucous coats of the stomach near the cardiac orifice. Many of our older physicians will remember that this was the teaching of physiology when they were students. Later it was conclusively established that the pyloric portions of the stomach's membrane had also a peptogenic function, though in a less degree than the cardiac. This ratio has finally been established as about one to two. It is only within a short time that it has been suspected that pepsin was ever formed outside of the stomach. Recently pepsin or a pepsin-like substance has been found in the mucous membranes of the small intestines, in the blood, the lymph and the brain, and also in the lungs. The saliva has also a small portion of this substance. The physiologist is compelled to admit, therefore, that pepsin is a product of many tissues of the body.—*Chicago Medical Review*, March, 1882.

Therapeutic Action of Larkspur.—M. Benvenuti, in a memoir analyzed in the *Annales de Dermatolgie*, recommends very strongly, a decoction of the flowers of larkspur (delphinium), or preferably an infusion made with four parts of the flowers to 100 parts of vinegar, against the pediculi of the pubis. Two bathings with this liquid have constantly sufficed to destroy the insects and their eggs, without inducing any irritation of the parts to which it is applied. M. Benvenuti has also found it an excellent dressing in ulcerated bubo, having a beneficial effect when carbolic solutions, tincture of iodine and iodoform have been used without result.

As the acetic infusion seems to determine slight tumefaction of the integuments, he found that three grams of the dry flowers, macerated for thirty-six hours in 100 grams of water, yielded a strongly colored liquid, which answered better for all purposes.—*Med. and Surg. Reporter*, May, 1882.

A Sedative Emmenagogue.—For a day or two antecedent to the actual commencement of the catamenial flux, women not infrequently suffer acute pain in the pelvic region, doubtless due to hyperæmia and hyperæsthesia of the reproductive belongings. To obviate this I have found no treatment give such satisfactory results as the following:

℞ Codeiæ sulphatis, gr. j.
Chloral hydratis.
Ammonii bromidi, aa gr. xx.
Aquæ camphoræ, ʒ j.

M. For one dose. S. Take at bedtime.

A repetition of the dose at that period is rarely necessary. In some cases a warm sitz-bath of fifteen minutes' duration before retiring, is a valuable adjuvant.—*Western Med. Rep.*—*Virginia Med. Monthly*, March, 1882.

Varela on a Case of Anæmia Treated Successfully by Injections of Defibrinated Blood.—Dr. Desiderio Varela records a case of anæmia of a severe type, in which rapid improvement followed the use of defibrinated blood given per rectum (El Genio Medico-Quirurgico, Jan. 22, 1882). The patient was a female, æt 20, who presented in a typical degree all the symptoms of anæmia. In addition to these, however, there was a positive aversion on her part to nutrition of all kinds. The usual tonic and ferruginous remedies had proved ineffectual, and therefore, as a last resource, it was determiued to resort to feeding per rectum. Every three hours two ounces of fresh defibrinated blood, warmed over a water-bath, were thrown into the rectum. No irritation or other bad consequences followed. A marked improvement took place as early as the third day after commencing the injections, which were gradually reduced in frequency as the functions of the stomach became restored.—*London Med. Record*, April 15, 1882.

Thoughts on Therapeutics.—I am led to believe, by my short experience in medicine, that there is a large percentage—more than half—of our physicians who are not as well informed in the actions of medicines that they are giving every day, as they are in other branches of the healing art, with which they have far less to do.

We are too prone to employ this or that therapeutic agent in the many ailments which we are brought into contact with, simply because we see it in the works of our standard authors, or in the medical literature of the day.

All this is good—excellent knowledge to begin with—but if we supplement this with a thorough understanding of the *modus operandi* of the remedial agents which we use, and then can verify them by actual practice and know the effects when we get them, we will then be able to lay out a course of treatment understandingly, and be on the road to

success with a sure footing, or, at least, we will feel more confident than our brother physician across the way, who doses his patients principally on somebody's say so. We can rely on ourselves, while he can not.

We can not be successful without confidence, and we can't be confident without knowledge, and the ability to apply it. A man may be a good observer and a poor reasoner, or *vice versa*. But we can not become good practitioners without a proper amount of each—even then that physician will often find himself at the bedside undetermined. How often do we grope our way, if not in darkness, in the dim twilight; fight our enemies blindfolded? I say enemies, because we so often find them observing the old maxim, "In union there is strength."

We look to our city members of the profession, who have abundant opportunities for observation, for a large portion of our science and art; but there is a vast amount of useful practical information put up with the so-called common practitioner, that he has accumulated by close observation, that will die with its author for the want of knowledge and a proper avenue of escape.

A very important lesson is to learn what to observe, and how to observe it; what symptoms indicate danger, and what none; what is important, and what is not; what we have neglected in a case, and what we have not. In short, learn what to do, when to do it, how to do it.

This brings me to some of the uses of carbonate ammonia—especially in pneumonia. And here let me say that I have failed to get the reputed action of this drug as tabulated by others. Carbonate ammonia, according to Wood & Bache, is a stimulant, diaphoretic; anti-spasmodic, powerfully antacid; and in large doses, emetic; and in certain circumstances, expectorant.

As a stimulant, it increases the action of the heart and arteries, without unduly exciting the brain.

Bartholow: "To stimulate the action of the heart and arteries, it has an undoubted effect. It is most useful to counteract the depression which occurs at the period of crisis in pneumonia. Given at this time in small and repeated doses every half hour or hour, it favors the liquifaction of the products of inflammation."

Thus, I think, I partially understand what our standard authors say of its action, and my failure in carbonate ammonia, as a stimulant, must be in my not having the art or discrimination to apply it, or to select the proper time in the case to give the stimulant, for its most marked effects, or that I expect too much, or it has but little effect, or that I get the action and fail to recognize them. I am led to believe that carbonate ammonia does not possess the wonderful stimulant power that some have asserted. I believe it has a stimulant action, but not enough to elicit what has been written of it.

Of its diaphoretic, anti-spasmodic and antacid powers, I have nothing to say.

As to its emetic properties, I think I have seen carbonate ammonia given when it produced nausea and vomiting. I well remember two cases of pneumonia, both patients being males, and about the same age, and near the same physical ability. I thought them nearing the period when they most needed stimulants. I gave them carbonate ammonia—gr. v. every hour. In one, nausea came on in about five hours, followed by vomiting. I suspended the carbonate ammonia—symptoms subsided. Again I prescribed the carbonate ammonia with the same result. I stopped the use entirely without a return of the trouble. In the other patient no such symptoms made their appearance. In the first case, I feel that the carbonate ammonia produced the nausea and vomiting. I am confident I have seen nausea in several cases, but not vomiting.

Where once I relied on carbonate ammonia and alcoholic stimulants in pneumonia to tide my patient over the crisis, I now use a solution in syrup of carbonate ammonia, tincture nux vomica, and tincture digitalis.

Tincture nux vomica is a powerful stimulant to the respiratory centers, supports the absorbent powers of the stomach when they flag, and thus serves to keep off nausea and accumulation of fluids in the stomach.

Tinct. digitalis is undoubtedly a stimulant to the circulatory centers. "It prolongs the diastole and increases the vigor of the systole.—(H. C. W.)" It is, perhaps, most useful when the action of the heart is rapid and weak, and the arterial tension low.

Carbonate ammonia I use for two reasons. First, that I think it has some stimulant action—especially in the above combination, it is most beneficial. Second, if counsel be called, I can say I am giving carbonate ammonia. I have found, from a general observation and a personal experience, that there are times when the advice of a brother physician is most needed, he is least to be relied on—especially if an old physician be called by young members of the profession, toward whom the old sire has been looking with an inward jealousy, waiting for a chance to catch the young bird. Even if he says nothing, it is hard to tell how far those knowing winks and nods go with the heads of the family and the old women, as he Dr. Small's his way into the good graces of those present and the junior member out.

Thus, with carbonate ammonia, tinct. nux vom., tinct. digitalis and alcoholic stimulants, supplemented by the linseed-meal poultice, which serves to relieve the hyperæmia of the inflamed lung, and acts as a stimulant to the heart, and thus partially relieves the distension of the right side of the heart.

With all these at our command, it requires no little amount of precision, lest we do more harm than good. Every case of pneumonia does not require all of these agents. I cannot tell you better how to use them than to repeat J. Milner Fothergill, on pneumonia:

"There is no treatment for pneumonia in itself. Its treatment in each individual case is a good touch-stone of the general information and the skill of the practitioner, and in his powers to observe and apply general principles. Each different line of treatment is followed by a large proportion of recoveries, but how many get well in spite of, rather than in consequence of, the treatment is open to question."—R. S. Rutherford, M. D., in the *Medical Herald*.

PUBLISH THE FORMULAS.—We have in two previous issues suggested the feasibility of pharmacists uniting in an attempt to obtain the passage of a law, requiring manufacturers of proprietary articles to print their formulas upon their labels. Following will be found the draft of a petition to Congress, which if industriously circulated for signatures, among retail druggists, and presented to Congress during the present session, may accomplish the desired result. The co-operation of the Representatives in your several districts should be at once secured, either through correspondence or personal interview, so that when the matter comes before Congress they will know how to act intelligently.

If copies of this petition with one or more signatures attached be forwarded to us, addressed to William O. Allison, 72 William Street, New York, we will undertake to secure the proper presentation of the matter to Congress and we will exert every effort to bring the bill to a passage.

In signing, give your full name, and the name of your State, County and Town.

To the Honorable Senate and House of Representatives of the United States of America, in Congress assembled:

We, the undersigned practicing pharmacists in the State of ——, doing business at the places set opposite our names respectively, do respectfully petition your Honorable body as follows:

Whereas: A strenuous effort is being made by the manufacturers of proprietary articles in the United States, to obtain from the present Congress, a repeal of the Stamp Tax affecting such articles, and whereas: it is confidently asserted that there is great likelihood of such an act being passed.

We would therefore petition, that should such proposed law receive the approval of Congress, that that class of such articles known and designated as "patent" or "proprietary" medicines, be excluded from the provisions of such law, except upon the terms and conditions hereinafter specified.

Our reasons for desiring this action on the part of your Honorable Body are as follows:

First—So-called "patent medicines" are patent only in name. Manufacturers have found it cheaper and more secret to trade-mark and copyright the labels used on their drugs, than to secure letters patent on the compounds, which must necessarily disclose their ingredients. The protection and secrecy afforded by these methods has opened the door to an almost endless variety and number of such so-called "patents," concerning the medicinal nature of which, medical practitioners and pharmacists know practically nothing.

Second—The business in these articles has become so large—there now being some 5,000 in the market—that it would be impossible, without great loss to your petitioners to discontinue their sale, and they are therefore called upon to sell to the public articles which often prove, upon use, exceedingly harmful, in many cases poisonous, and in occasional instances resulting in death. All of these serious consequences might be avoided, did pharmacists understand the nature of the goods they were handling; and nowithstanding, the fact that we do not recommend the purchase of these articles to customers, we are still held responsible for their effects, to our detriment and to the injury of the profession.

Third—All pharmacists are compounders or dispensers of pharmaceutical preparations, prepared according to formulas contained in the United States Pharmacopœia. These formulas are the result of the best medical experience of this and other countries, and preparations made from them are exempt from the operation of the Stamp Tax, provided the formulas are printed upon the packages in which they are contained, as will be seen by reference to the statutes. The said publication of formulas has been the only ground upon which the Government has thought proper to grant this immunity from taxation; and should the Stamp Tax be removed from secret proprietary articles, they will then enjoy advantages which have never been conceded by the Government to the infinitely more valuable pharmaceutical preparations, namely, the right to secrecy.

Fourth—This discrimination in favor of a far inferior article is opposed to the interests of your petitioners and the community at large. It is highly essential that in dealing with so important a matter as the public health, we, the dispensers of these articles, should have more accurate knowledge of the nature of compounds forced upon us for sale; not only for our own protection but that of the consumer.

Fifth—There is no method known to your petitioners whereby this protection may be afforded, except that manufacturers of proprietary medicines be required, by law, to publish their formulas on the packages containing their goods, in a similar manner to that now demanded of compounders of pharmaceutical preparations.

Sixth—The passage of such a law could in no wise affect the manufacturers of meritorious proprietary medicines, to their detriment. It is conceded by them that the chief value of such prepations, aside from their medicinal properties, lies in the name and trade-mark under which they are sold, and these are amply protected by the existing laws in reference to copyrights and trade-marks. But even were this not so, the right to patent these preparations is undisputed, and abundant indemnity against infringements is provided for in the patent laws.

Seventh—In conclusion, your petitioners would say that the Congress of the United States owes it to the people, which it represents, to afford them this slight protection against the glaring frauds upon the public health and purse which are perpetrated under the guise of proprietary medicines. If proprietors are compelled to publish their formulas, your petitioners will at least be able to discriminate in the sale of these goods against the hurtful and fraudulent, and the result can be but beneficial, not only to the profession of pharmacy, but the public in general. Your petitioners would, therefore, pray that a law in the spirit following, be enacted by Your Honorable Body.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That manufacturers and proprietors of proprietary medicines, otherwise known as "patent" medicines, shall print, or cause to be printed, or displayed in English upon each and every label and package upon and containing the proprietary or "patent" medicine which they manufacture or control, the correct formula for compounding the said medicine or compound therein contained; and that all importers or agents in the United States of and for foreign patent or proprietary medicines be also required to conform to the said law in manner as above specified.

Provided, that where said law and regulations are conformed to, then the said manufacturers, proprietors, importers and agents shall be relieved from the operation of the law providing for the stamping of such patent and proprietary articles with United States internal revenue stamps, as provided for by law.

And provided further, that any violation of the above laws *and provisions* shall be punishable by a fine of not less than fifty nor more than one hundred dollars for each offence.—*American Pharmacist*, April, 1882.

Viola Tricolor in Eczema.—Dr. H. G. Piffard (Medical Record, April 29, 1882,) is inclined to believe that viola tricolor is a specific in eczema, in the same sense that quinine is a specific for ague. He uses fluid extract; the dose being, in adults, from five to ten minims in acute eczema, and from half a drachm to two drachms in subacute and chronic eczema. The drug should be taken in water once, twice, or thrice a day, always on an empty stomach, and when possible, half an hour before meals.—*Chicago Med. Review*, May, 1882.

Diet List for Lactation, on the Salisbury Plan.—Aliments include air and drinks. Food should be pure, seasonable, healthy, properly cooked, regularly taken and liberally eaten. Besides the æsthetic view of food there are the chemical—kinetic—physiological, pathological and therapeutical. Common sense estimates include all these. As the object of lactation is a plentiful supply of milk that answers to the above standards, the nursing mother should not allow love of the beautiful alone to select her food. While food should not offend the senses, it should contain all the elements found in the infant's body, be rich in blood, nerve, bone, muscle, vascular, glandular,

respiratory elements. In other words as we feed kine for milk, birds for health, and horses for work, by giving them their natural food, so we should feed nursing women on their natural food, to wit, two-thirds animal and one-third vegetable (Salisbury). Besides it would be better to live on the diet during gestation.

LIST OF FOODS.

ANIMAL FOOD.

Milk,	Pigeon,
Butter,	*Squab*,
Eggs,	Fish of all kinds, ma-
Cream,	rine or aquatic,
Cheese,	*Salmon*,
Beef steak,	*Eels*,
Sirloin steak,	Haddock,
Porter house steak,	Scup,
Roast beef,	Perch,
Corned beef,	Halibut,
Beef tongue,	Sword fish,
Tripe,	Cusk,
Ox tail,	*Clams*,
Calves feet and heads,	*Clam water*,
Pork, fresh and salt,	Shell fish,
Pig's feet and heads,	*Oysters*,
Sausages,	Scollops,
Chicken,	Shrimps.
Geese,	

VEGETABLE FOOD.

Wheat, whole, cracked,	Celery,
crushed and baked like	Onions,
oatmeal.	Spinach,
Arlington wheat meal	Lettuce,
Franklin mills entire	Dandelion,
flour,	Parsley,
Cold blast,	Radish,
Carr's Graham flour,	Cranberry,
Oats,	Turnip,
Rye,	Squash,
Maize,	Carrot,
Buckwheat,	Pickles,
Peas,	Fruits,
Cabbage,	Apples,
Tomatoes,	Irish moss.

NOTE.—The patient is not expected to eat every thing on the list in order, but to make selections according to will, but the articles in italics are preferable.—Ephraim Cutter, M. D., in *Michigan Medical News.*

CYANIDE OF MERCURY IN OCULAR SYPHILIS.—At the meeting of the Société de Biologie, January 28, 1882, M. Galizowski read a paper on this subject (*Le Progrès Medical*, February 4th). He stated that injections of cyanide of mercury had proved remarkably efficacious in his hands in controlling certain syphilitic troubles in the membranes of the eye. When there was syphilitic atrophy of the optic nerve, or when the disease attacked the choroid or retina, the ordinary preparations of mercury had proved, in his hands, as well as in the experience of others, very unsatisfactory, and the experiments which he had made in conjunction with M. Fournier with the albuminate, had satisfied him that it possessed scarcely any value. He had used the cyanide in many cases of iritis, choroiditis, and even in atrophy of the papilla of syphilitic origin, and the results had been highly satisfactory.

[In the abstract of M. Galezowski's paper, published in *Le Progrès Medical*, no mention is made of the dose. Bartholow says it should be given by the mouth in doses of from 1-20 to 1-6 of a grain.] *Virginia Med. Monthly*, March, 1882.

THERAPEUTIC PROPERTIES AND PHYSIOLOGICAL ACTION OF CANNABIS INDICA.—Since attention has been drawn to the use of this drug, especially for uterine affections, Dr. Michel proposes the following for metrorrhagia:

℞ Tinctur. cannabis indic, ℥ss.
Syrupi, ℥iij.
Aquæ, ℥xij.

M. S. A large teaspoonful every five or six hours.

His article terminates with the following conclusions:

1st. Cannabis indica, whose action on the nervous system is indisputable, is destined to occupy an important place in therapy.

2d. Its action is double: in moderate doses excitant; in large doses sedative and calmative, tending to produce muscular resolution and sleep.

3d. Employed with advantage in the majority of nervous affections, its utility has been demonstrated in chorea, tetanus, certain varieties of insanity, delirium tremens, and neuralgia.

4th. The uterine muscular tissue is most sensible to its action. Its influence prevents metrorrhagia, and its action on the uterine muscle leads the author to think that perhaps it may even supplant ergot.—*Gaceta Med. Catalana.—Revista Med. Quir.—Virginia Med. Monthly*, March, 1882.

ACTION OF MATÉ ON THE GASES OF THE BLOOD.—In 1878, M. de Arsonval showed that the administration of large doses of maté produced phenomena of excitation on the sympathetic system. Couty has repeated his experiments as to its action, when given in infusion or after short ebullition. They agree that maté in large or repeated doses by the stomach or veins, has a marked action on the gaseous elements of the blood changes. It modifies both arterial and venous blood, diminishing the carbonic acid gas and the oxygen in enormous proportions, corresponding to a third or half of the normal quantity.—*Revista Medico Quirurgica.—Virginia Med. Monthly*, March, 1882.

New Remedies.

GRINDELIA ROBUSTA.—This is another remedy lately introduced to the profession from California. It is a perennial, herbaceous plant (Nat. Ord. Compositæ). A native of the west coast of America, where it grows to the height of two feet or more. It rejoices on elevated plateaus, and in general characteristics resembles the sunflower; so much so as to be called wild sunflower by the common people. It yields a balsamic oleo resin, resembling in odor sweet marjoram, or summer savory. The medicinal virtues reside in this oleo resin combined with a narcotic principle.

Therapeutics.—Grindelia robusta is represented to be useful in rhus poisoning, in the bites of venomous serpents, and in the stings of insects. It is certainly an excellent dressing for burns and scalds, when these are superficial. Applied by means of wet cloths it soothes the agonizing pain, and the sufferer will generally in a few minutes drop off to sleep. It is well to give a few doses of rhus internally at the same time.

Chronic ulcerations, even when deep and fetid and exquisitely tender, may often be speedily cured by the topical and internal use of this drug. Make a wash of four drachms of the fluid extract in eight ounces of water, and keep the ulcers wet with muslin strips dipped in this solution. Also, give internally a half drachm per day of the fluid extract, in divided doses, in water. Often in a few days, generally within one week, a marked improvement will be made, pain and swelling will disappear, and the case will progress to a rapid recovery.

Grindelia robusta seems to possess an almost specific action in certain diseases of the eye. In conjunctivitis and purulent ophthalmia, it has been found greatly serviceable; but particularly in iritis

is its power evidenced. This, when traumatic, will always yield quickly to this treatment, and when arising from cold or a metastasis of rheumatism it is almost as reliable; but in arthritic, syphilitic, and scrofulous iritis it does not answer so well. In other words, when the pain is intense, and the fever runs high, grindelia will do good; but when the symptoms are subacute, and the disease progresses but slowly, it fails. The following cases indicate the nature of its service and manner of application:

Case 1.—Mr. C——, æt. 35, applied to me for treatment. His right eye was much swollen and protruding, the iris very much contracted and irregular on its edges. There was intense pain through the whole ball of the eye. The conjunctiva was very red and its blood vessels distended. The lids were swollen and tinged. He had been in poor health for some time, but had followed his usual avocation, that of teamster, till yesteday. I applied leeches, put him on mercury, and applied the usual cooling lotion of the organ. This course was thoroughly followed for several days with no appreciable benefit. He could not rest without an opiate. The case was anything but a promising one. As he sat in my office complaining bitterly of the heat and pain, begging me to do something to give relief, I thought of the grindelia, some of which was on the table before me. I immediately acted on the thought, and soaking some thin cloths in a mixture of one tablespoonful of fluid extract to four of water, I applied it, with directions to keep it wet. He remained in the office several hours, to avoid the intense glare of the sun (it belng in the country). When I returned, there was marked amelioration of the symptoms.

In the morning, for an old asthmatic difficulty from which he suffered, I gave him some of the fluid extract of grindelia, with directions to take one teaspoonful four times a day. In thirty-six hours the patient was convalescent from both troubles.

Case 2.—Mr. G——, an old man sixty years of age, received an injury of the left eye while in the hay field. After using home remedies for two days, without benefit, he came to me, suffering intensely with all the symptoms of iritis as strongly marked as in the other case. Having met with such good success, I commenced immediately with the grindelia, externally and internally as before. In twenty hours the pain and inflammation had nearly ceased, and in a few days he resumed his business.—*Fiske.*

But the chief clinical history of grindelia robusta centres about asthma and its concomitants, and it comes as near being a specific as any medicine can. Among the old Spanish residents of California this drug has long enjoyed an enviable reputation in the speedy cure of asthmatic and bronchial affections, and, taken up by the profession there, it has now come into general use.

In all affections of the air passages, chronic bronchitis, bronchorrhœa, or chronic pneumonitis, associated with asthmatic paroxysms recurring at night; or in patients whose cold always take this form of dyspnœa, you will find the greatest relief from inhalations of grindelia—a drachm in a pint of boiling water. The whole spasm will be over in five or ten minutes, and its return can be, in most cases, prevented by ten drop doses several times a day. If it does not wholly remove the liability to attack it will at least materially lengthen the interval between them, and render the attacks more mild.

In the cough of phthisis, in the cough of cardiac hypertrophy, and in the dyspnœa from heart disease, grindelia, in the same doses, will be found highly ameliorative, and in heart complication, an admirable adjunct to digitalis.

In pertussis, while not so universally applicable as in asthma, it will both modify the intensity and lessen the frequency of the paroxysms, and is often useful as an intercurrent remedy in this troublesome affection.

It is of far more value in rose cold, hay asthma, and autumnal catarrh. Indeed, in none of the affections of the air passages does it appear of much value unless there be a certain periodicity in the recurrence of the symptoms. In these cases, an ounce of the fluid extract in four ounces of simple syrup, a teaspoonful three or four times a day, will relieve the distress the first day, and cure within a week. In some cases all the symptoms disappear as if by magic after the first dose. Rarely do patients require more than two ounces of the extract during the season. Most cases are not really cured, but will return the following year as usual, but in a much milder form. A single dose of grindelia at the commencement will give complete relief.

Grindelia robusta is often indicated in diseases of the genito-urinary organs. In those painful conditions, priapism in one sex and vaginitis in the other, its application soon brings relief. It should be used, one part to four of hot water, as warm as can be borne.

Case 3.—Mrs. ——, æt. 53, married 32 years, mother of six children, plump. somewhat inclined to obesity, of very fair and florid complexion, generally speaking, healthy, and of uncommon strength and endurance, bodily and mentally, had, since her menses made their first appearance, always had a very copious flow, lasting three to four days, and the menses with great regularity returned every twenty-one days. About two years ago she underwent the "change of life." Immediately after the menses stopped, vaginitis set in, and she says that the burning and itching she suffered day and night is beyond all description, and it had resisted every remedy that came within her knowledge. The flow of a whitish acrid fluid had also persistented continued. I gave:

℞ Extracti grindeliæ robustæ fluidi, ℥ j.
Aquæ pluvialis, ℥ iv.

M. S. Apply with a vaginal syringe twice or thrice a day, and apply the mixture to the parts inflammed externally by wet cloths, changing them three or four times a day.

Cured in four days.—*New Preparations.*

In urethritis and vaginal catarrh, in chronic cystitis, in leucorrhœa and gleet, you will find the local and systematic use of this remedy fully equal to any remedy we possess.

It has been used in cancer of the stomach, and found to allay nausea and retching, relieve the prostration and quiet the nervous system.

Further investigation will undoubtedly develop other important uses for this already valuable addition to our materia medica.—*New York Medical Eclectic*, July, 1881.

ASCLEPIAS CURASSAVICA.—Dr. Guimaroes, Rio Janeiro (Uniao Medico), has been investigating the physiological properties of bastard ipecacuanha (asclepias curassavica), and has found that its active principle is a cardiac poison, somewhat similar to digitalis. It is an excitant of the vasomotor centre. The solutions obtained by maceration of the stalks, and obtained in like manner from the roots, act with unequal intensity.—*Chicago Med. Review*, May, 1882.

CAROBA.—Caroba, (*Jacaranda procera, Bignoniacea*) according to Peckolt is the name given to a number of plants, growing in Brazil, which are used as anti-syphilitics. The one most effective medicinally and most in use is the *Jacaranda procera*, of which the following is a very complete analysis. This was performed on the leaves, and so extended as to include the bark as well, where-

by it was ascertained that the latter, though heretofore neglected, can be employed medicinally. One thousand parts of the substance air dried contain:

	LEAVES.	BARK.
Carobin, crystallized	1.620	3.000
Carobic acid, crystallized	0.516	—
Steocarobic acid, crystallized	1.000	—
Carobon, balsamic resinous acid	26.666	—
Caroba-resin acid, orderless	—	2.000
Caroba-resin, odorless and tasteless	32.334	5.000
Caroba balsam	14.420	—
Caroba bitter	2.880	2.830
Extract	10.550	19.530
Extract and organic acids	10.000	—
Caroba tannic acid	4.390	4.800
	Black With Iron.	Green With Iron.
Glucose	—	1.650
Chlorophyll and wax	9.000	—
Calcium Malate	0.200	76.100
Albumen, Starch, dextrine, salts, &c	32.120	
Cellulose and water	853.304	855.090

Although the general composition of the two parts is approximately the same. Still the absence of certain of the constituents in the bark makes it necessary that the medicinal action of the latter must be determined by therapeutic experimentation.

Carobin forms felted, silken needles, is odorless, has a slight alkaline taste which leaves a bitter impression on the tongue. It fuses to a clear liquid, leaves no residue, and cannot be sublimed. It is not soluble in ether or in ethereal alcohol; slightly so in cold water and cold alcohol; readily soluble in boiling water or boiling alcohol, from which, on cooling, it again separates out. The solution turns turmeric paper brown. A heavy crystalline precipitate is produced with tartar emetic, and also with ammonium carbonate, the latter redissolves in excess. No reaction is obtained with either tannin, palladium chloride, platinum chloride, gold chloride, or Nessler's solution. It is slowly dissolved by concentrated sulphuric acid without any apparent change, but on heating, dense fumes having a strong odor of sulphurous acid are evolved. Dilute sulphuric acid dissolves it readily, especially on heating; after cooling it crystallizes out in scales; no reaction was obtained with glucose. It is difficulty soluble in concentrated nitric acid, but readily so when heated; the warm solution is colorless, turning yellow on cooling. The carobin chloride forms granular crystals. The acetate forms star-like groups of fine needle-shaped crystals, which, however, are not so lustrous as those of carobin.

Carobin acid occurs as stellate crystals, which have an agreeable aromatic odor and an acid taste. It fuses on platinum foil to a clear liquid, and when heated gives off a strong balsam-like odor and leaves a black spot. It is soluble in water and dilute alcohol.

Steo-carobic acid forms light brown fatty crystals, possessing an agreeable aromatic odor, like that of the tonka beans. It has a strong acid taste, which dulls the teeth. When heated it completely volatilizes. It is soluble in boiling alcohol, absolute alcohol, and in ether.

Carobon, the resin acid, is a dull light greenish amorphous mass, which may be pulverized. It emits an agreeable odor, resembling the tonka bean. After melting, it burns with a luminous flame giving off an agreeable smoke with an acid reaction. It is readily dissolved by hot alcohol, and the solution will not redden litmus. It is precipitated from its ammoniacal and caustic alkali solutions, in green flocks, by adding hydrochloric acid. When it is boiled in a solution of sodium carbonate it becomes dissolved, and at the same time carbon dioxide is given off and the resin soap thus formed is soluble in water, from which solution, it is precipitated in white flocks by hydrochloric acid. Its alcoholic solution gives with copper acetate a heavy brown precipitate which turns grey. Tincture of iodine after some time will separate green flocks. No reactions are obtained with silver nitrate or iron perchloride.

Caroba balsam is a dark brown syrupy liquid, quite similar to Peruvian balsam. When evaporated, a resinous mass with a slight odor is produced. Over calcium chloride it does not become dried, only more viscid and still retaining its aromatic tonka-bean-like odor, with slightly burning taste. It is almost insoluble in water, but readily dissolves in alcohol. On platinum foil, it carbonizes with the formation of a peculiar aromatic smoke. The alcoholic solution is neutral, giving no precipitate with Nessler's reagent, phospho-molybdic acid or iron perchloride, but with palladium chloride a heavy brown precipitate is obtained.

Caroba bitter from the bark. The ethereal extract is dissolved in alcohol, filtered, distilled, evaporated and then dissolved in boiling water, cooled, filtered, and treated with tannic solution as long as a precipitate is formed. The precipitate is washed with a little water, dissolved in a small quantity of alcohol (0.870) and stirred with magnesia to a paste, then dried, pulverized and extracted with boiling alcohol, (0.870) and then distilled until all alcoholic odor disappears. Again dissolved, in ether, evaporated and dried over calcium chloride. The bitter forms a light, shiny mass, which, when pulverized, becomes a light yellowish powder, which is somewhat hygroscopic, odorless, and has a very strong, but not disagreeable—bitter taste. Heated on platinum foil, it leaves but a slight amount of cake. It is difficultly soluble in ether, readily in water and alcohol. The solution is neutral and gives a heavy precipitate with platinum chloride, with iron perchloride, a yellowish brown coloration, and then a precipitate is obtained.

From a therapeutic point of view, caroba is a worthy rival of sarsaparilla, and is to be preferred to the latter. Brazil exports sarsaparilla, but for its home consumption caroba is used. Prior to the discovery of America the leaves were used by the Indians for wounds and skin diseases. Subsequently it was employed by the Portuguese as a specific for skin diseases, and at present all Brazilian physicians recommend it as an anti-syphilitic. Peckolt advises balsamo de caroba as a tonic in one gram doses, and externally as a remedy for wounds. Carobon is given in doses of 0.1 grm. for skin diseases, and carobinum in 0.065 grm. doses for syphilitic and scrofulous affections. An infusion of the leaves (120 grms. of dry leaves to the litre, 1 cup three times a day) is also given for these diseases. A syphilitic affection known as "bobas," frequently occurring among the blacks, is often cured by the "Massa de Dr. Alves Carneiro." The composition is as follows: 90 grms. fol. caroba, pulv.; 30 grms. sarsaparilla, pulv.; 30 grms. fol. sennæ, pulv.; 2 grms. calomel, and syrup is added until the consistency of an electuary is obtained. The dose is a teaspoonful morning and evening, with caroba tea.

For the healing of chronic wounds, a large cup of the infusion is drunk three times a day, and morning and evening the wounds are washed with a concentrated decoction and sprinkled with caroba powder. The planters, in addition, often evaporate the infusion to a liquid extract, which they place over the wound, as a balsam, with lint.

The caroba drug appears to have a brilliant future before it, for in collecting the sarsaparilla the plants are destroyed, while the caroba leaves may be harvested annually.

In conclusion, Peckolt mentions the names of other plants used under the name of caroba, in Brazil. The most important are:

Caroba des Paulistas. *Jacaranda xyphylla, synon. Bignonia anti-syphilitica, Mart.* It has dark-green leaves like those of the acacia. It is used instead of *Jacaranda procera*, and to act as a purgative.

Caroba branca. (*Sparatos perma lithonthripticum Mart*). The leaves of this plant are smooth and of a light-green color. The bitter, strongly aromatic

resinous leaves constitute one of the old Indian remedies against skin diseases. They act as a diuretic and are prescribed in cases of calculus.

Caroba de flor verde. (*Cybistax anti-syphilitica, syn. Bignon, quinquefolia*) Now well known as an excellent anti-syphilitic, used in doses of 8 grms. as a tea. In addition, it is recommended for dropsy and chronic liver affections—for the latter doses of pills made of 0.1 grm. of the alcoholic extract, are to be taken three times a day. A concentrated infusion is used for washing bad syphilitic ulcers. The bitter-tasting bark of the branches is taken internally as a diuretic, and also used against syphilitic bone affections as well as diseases of the liver and spleen.—*Pharm. Zeitschrift fur Russland*, xxi, 86.—*American Pharmacist*, April 1, 1882.

Cascara Amarga in Syphilis.—Vegetable drugs are less esteemed in the treatment of syphilis, even as adjuvants, than they were a quarter of a century ago. The influence of sarsaparilla, once so constantly prescribed, is now discredited, unduly, according to a statement lately made by Dr. W. Carter in the "Practitioner," who asserts that, if given in sufficiently large doses, its effect may readily be recognized. From time to time new organic remedies are brought forward, soon to be forgotten. The latest of these is the cascara amarga, or Honduras bark, which has been tried at Baltimore with success, according to Dr. Coyner, who has recorded the rapid disappearance of the symptoms of secondary syphilis in the case of a man and his wife, and of inherited syphilis in their child, aged five years. The fluid extract was employed in doses which varied from forty-five to fifteen drops.—*Lancet.*

Woorara: Its Medicinal Properties and Availability in the Treatment of Disease.—The availability of any remedial agent for the cure of disease must depend primarily on the physiological action of the drug, and, secondarily, on its judicious administration; whilst our knowledge of the action of medicine upon the sound organism of man and the lower animals can only be gained by experimentation and careful observation, which form an indispensable key to their curative operations in morbid conditions. The marked physiological action of woorara clearly indicates the existence of a power which, if properly applied, may be advantageously employed in the treatment of disease; and this, with the additional fact that in all our authoritative works on Materia Medica there is no mention made of this drug, or else it is classed with the *non-officinal*, now prompt me to call the attention of the medical profession to it. It therefore becomes important at this stage of our inquiry, to direct attention to the opinions expressed in regard to the physiological action of this drug by various investigators. The conclusions reached by Virchow and Münter, after the performance of various experiments, are expressed in the following:*

"1. That the woorara, even after having been kept dry for five years, is still intensely poisonous.

2. That the physiological action of the woorara is in harmony with the chemical analysis, which denies the presence of strychnia.

3. That woorara, therefore, does not belong to the class of tetanic poisons, but, like opium, induces stupor; and although it causes slight convulsive actions in cats, there is, nevertheless, neither tetanus nor trismus.

4. That it induces paralysis of the voluntary muscles, with, at the same time, long continued action of the involuntary muscles (heart, intestines).

5. That woorara does not appear to produce death by absorption from the external surface of the body, but only when it is absorbed through a solution in the continuity of the animal tissues.

6. That in poisoning by woorara, coagulation of the fibrin of the blood ensues in the same manner as though the animal is killed by mechanical means; and that death takes place not so much from any direct result of the poison, as indirectly by its causing the cessation of the respiratory process."

Bernard, having carefully studied the physiological action of woorara, expresses his views in the following language:*

1st. That all reflex movements cease a few minutes after poisoning, the heart continuing to beat for a considerable time.

2d. That woorara is not absorbed from the mucous membrane of the stomach during digestion, or from the bladder, or from the conjunctiva of mammals, but it is readily taken up from the pulmonary and rectal mucous membranes of these animals. When introduced into the œsophagus or gizzard of birds it is speedily fatal. Applied to the dry skin of frogs, it acts slowly but surely. In contact with the wet skin of these animals, it is not absorbed.

3d. Woorara abolishes the function of the motor nerves, but does not affect that of the sensory nerves. Muscular irritability is rather augmented than diminished.

4th. That woorara kills the nerves from the periphery to the centre, acting in this respect conversely to strychnia.

5th. That it causes death by arresting the process of respiration, thus inducing asphyxia."

The conclusions reached by Virchow and Münter are essentially the same as those of Bernard; and it may be further added that the researches made by other students in this field have not disturbed the foundation on which they rest.

It is only just, in this connection, to call the attention of the reader to the experiments performed, and the conclusions reached by Drs. William A. Hammond and S. Weir Mitchell, who have published the results of their labors in the American Journal of the Medical Sciences, July 1859. This elaborate paper is entitled: "Experimental Researches Relative to Corroval and Vao—Two New Varieties of Woorara, the South American Arrow Poison." The conclusions expressed in regard to the physiological action of the drugs examined by these eminent students are so entirely antagonistic to all previous and subsequent observations on woorara, that it is absolutely impossible to understand or explain exactly what they observed and recorded, unless we suppose they experimented with an entirely different substance. The title of their paper leads us to conclude that they were fully aware that the drugs with which they experimented might be essentially different from that substance commonly called woorara; and the physiological results obtained in their experiments confirm us in the opinion that corroval and vao are questionably regarded even as varieties of woorara.

The marked difference in the physiological action of these drugs on the heart has been well expressed by Hammond and Mitchell, who say:† "The woorara hitherto used by experimenters was found, as we have already seen, to exercise little or no direct influence on the heart. This organ continued to beat in all animals for a considerable period, and, even after it had entirely stopped, it could be made to resume its actions by artificial respiration. The action of the corroval is in this respect directly antagonistic, as will be perceived from the following experiment." A more thorough understanding of their views in regard to the action of

*American Journal Medical Sciences, Vol. xxxviii, p. 22.

*Ibid, p. 24.

†Ibid, p. 28.

corroval and vao is found in the following conclusions :†

"The vao poison closely resembles corroval in its physical, chemical and physiological reactions. The alkaloids extracted from the two poisons produce in animals of equal size effects which cannot be distinguished. We, therefore, are inclined to consider vao as merely a weaker variety of corroval, and to conclude that the apparent difference in the effects produced by the original extracts is due to a difference in their strength."

In reference to the physiological action of this drug, they conclude as follows :*

"The first effect of vao is to increase the force of the heart without increasing the number of its pulsations. The next effect is a paralysis of the muscular tissues of the heart, so that the ventricle stops first and the right and left auricles next, in the order in which they are named. In a majority of the frogs poisoned by vao, the heart remained galvanically irritable for a certain time after the organ had ceased to pulsate. The heart stops before the voluntary motions are at an end, in all cases of rapid poisoning. When poisoning occurs by absorption from a mucous surface, the phenomena march more slowly, and voluntary control and reflex power are sometimes lost before the heart has entirely ceased to beat. Vao stops the respiration in warm-blooded animals by arresting the circulation, and so paralysing the nervous system, without which respiration is impossible, so that the checked respiration is a consequence and not a cause of the injury to the cardiac functions. * * * The facts last quoted, and the inability of artificial respiration to restore or sustain the cardiac movements in warm-blooded animals poisoned by vao, proves sufficiently that the first effect of the poison is upon the heart, and that the appearance of asphyxia observed post mortem in rabbits, cats, etc., are of secondary importance so far as concerns the cause of death."

The arrow poison employed in the experiments of Drs. Hand Mitchell was brought, in February, 1857, from the Rio Darien, in the province of New Granada, South America, by Drs. Ruschenberger and Caldwell, of the United States navy. There is no reason to suppose that the drug employed by them has ever been offered for sale, or used by other experimenters who have reported the results of their experiments; since the bibliography of this subject would seem to indicate by the peculiar physiological action of the remedial agents, where it has been described, that in all cases the substance employed was the same as that reported on by Bernard and Virchow and Münter, inasmuch as the character of the effects produced was always the same, although the degree varied in different cases. It is generally admitted that the drug must be introduced directly into the circulation, in order to produce either its medicinal or poisonous effects with any degree of certainty or regularity; and consequently when swallowed into the stomach it is either inert or very uncertain in its action.

The most plausible explanation of these facts is based on the supposition that the absorption of the drug by the mucous membrane is tardy, while its elimination by the natural emunctories is comparatively rapid, although it may be possibly due to chemical changes in the medicinal agent effected by the fluids of the stomach. The practical lesson taught by these facts is, that the drug should always be administered hypodermically.

In order that I might study the physiological action of this drug, and at the same time determine, to some extent the comparative value of some specimens, I have recently made a limited number of experiments. The woorara used in these experiments came from five different sources, and the specimens were found to differ widely in their physical appearance, and still more markedly in the degree or intensity of their action, although the same phenomena were produced when the quantity was properly regulated. In the winter of 1876, I obtained from Albert Dung, of New York, some woorara, a part of which was then made into a solution for hypodermic use, and the balance was preserved in a solid state until just before the performance of these experiments. The other specimens of this drug were secured during the autumn of 1881, or in the early part of the winter of 1882, and were all, when they came into my possession, in the solid state—the solutions having been prepared only a few days before required for use. The article which seemed to be generally offered for sale by the druggists of New York and Philadelphia was labelled "E. Merck, Darmstadt," although I obtained from the house of Lehn & Finck, of the former city, an inferior drug which bore no mark indicating the source from which it originally came. Prof. Jno. C. Dalton, of New York, kindly supplied me with one specimen which was employed in three experiments, and another was received from Dr. Reichter, of Newark, N. J.

The quality of each specimen may be reasonably inferred by its physiological action, and its relative strength by the quantity required to destroy the life of a rabbit, since these animals were of nearly uniform size and strength, and therefore presumed to possess about the same power of resistance. The physiological action of the drug was of the same kind in all of our experiments, but the quantity required to produce death with the following specimens were as follows :

Reichert's, 1-20 gr.
Merck's, 3-20 gr.
Dung's, 3-20 gr.
Lehn & Fink's, 7-20 gr.

whilst the administration of one-third of a grain of the specimen procured from Prof. Dalton was followed by a very slight manifestation of its peculiar action, and the animal fully recovered.

Having already shown the variable strength of the drug, I now desire to call attention to the fact, that although it is unquestionably impaired by long exposure to the air, still it may retain, under favorable circumstances, its active principles several years. The specimen obtained from Mr. Dung has been in my possession more than five years. One part of this drug was then made into a solution, and put into a glass stoppered bottle, where it remained undisturbed until a few weeks ago, and the others were kept in a solid state during the same period, but since brought into a liquid state for hypodermic use. The old solution is now as efficacious as the new, but neither possess more than one-third the power which belonged to it five years ago.

We will now proceed to the presentation of some of the more important results of our experiments. There were employed in these experiments five dogs and twenty-nine rabbits, and the administration of the woorara was followed by four deaths, with only one recovery in the canine family, although the rabbits were more fortunate, since there were eleven deaths and eighteen recoveries. The following are records of a few typical cases:

Dog No. 1, a small brown puppy, weight 8 pounds. Injected hypodermically at 2:47 p. m. two-fifths of a grain of woorara. 2:57 p. m., pulse 150; 3:11 p. m., lachrymation and salivation; 3:17 p. m, movements unsteady—posterior extremities drooping; 3:18 p. m., pupils widely dilated, pulse 100 and regular, respiration 36. 3:23 p. m., salivation marked; some muscular twitchings. 3:25 p. m., voids urine; pupils still widely dilated. 3:30 p. m., pulse 60; respirations very slow and irregular; eyeball insensitive to touch. 3:37 p. m., pulse 53 and regular; respiration, 4. 3:38 p. m., no respiration during the last minute. The heart

†Ibid, p. 59.
*Ibid, p. 58.

continued to beat two minutes after the respirations ceased.

Dog No. 2, a large shepherd dog, weight 35 pounds. 2:50 p. m., injected hypodermically one-half a grain of woorara. 3:28 p. m., walks like a horse suffering with spring-halt—want of muscular co-ordination, seems weak in the loins. 3:47 p. m., posterior extremities are becoming weaker; has fallen twice; pupils widely dilated: sits on haunches. 3:51 p. m., can still walk, but with much effort; lifts the hind legs yet as if suffering with spring-halt; mouth is open and tongue is out. 3:57 p. m., salivation is present. 4:00 p. m., cannot stand; makes useless efforts to rise; pupils widely dilated. 4:05 p. m., eyeball sensitive; wags his tail when called. 4:08 p. m., slight muscular twitchings. 4:16 p. m., pulse 128; moves his head slightly; pupils dilated. 4:20 p. m., tries to get up but can only move his head. 4:30 p. m., tried to get up, and is apparently recovering. February 12th. When I opened the door of the laboratory this morning the dog ran out apparently as well as ever.

Rabbit No. 1. Injected hypodermically at 4-13 p. m. one-tenth of a grain of woorara, which is double the amount required to kill the animal. The movements and general appearance of the rabbit are unnatural, although the pupils are not widely dilated. 4:22 p. m., cannot stand; pupils contracting; no salivation. 4:24 p. m., respirations regular; heart beats strong and slow. 4:26 p. m., pupils widely dilated; pulse 91 and regular; no respiration during the past minute; heart continued to beat two minutes after the respirations ceased.

Rabbit No. 2. The solution of woorara was injected at 3:57 p. m. 4:13 p. m., pupils dilated; gait staggering. 4:14 p. m., falling on side; cannot walk; makes efforts to rise, but cannot. 4:16 p. m., pupils not so much dilated; respirations regular and easy; eyes sensitive to the touch. 4:37 p. m., eyes more sensitive to the touch; respiration unchanged. 4:46 p. m., slight muscular twitchings of the anterior portion of the body. 4:54 p. m., general muscular tremor. 4:58 p. m., pupils contracted; eyes not so sensitive to touch. 5:20 p. m., eyes again sensitive to the touch; muscular tremor more marked; makes attempts to stand. The next morning the animal had fully recovered.

Rabbit No. 3. The injection of woorara was given at 4 p. m. 4:10 p. m., unwilling to move when urged; pupils widely dilated. 4:11 p. m., cannot stand. 4:12 p. m., muscular twitchings; eyes sensitive to the touch. Heart ceased to beat at 4:16 p. m.—there having been no respiration for the preceding three and one-half minutes.

Our experiments confirm the conclusions expressed by Bernard, Virchow and Münter, and others in regard to the physiological action of this drug, as may be seen by an examination of the above record of cases. But a brief mention of the symptoms which appear after the hypodermic injections may be of some value to the profession when given in the order of their occurrence.

It ought to be mentioned here that the symptoms produced in the dog and rabbit by this drug are not precisely the same, the chief difference consisting in the presence of lachrymation and salivation in the former class of animals, and their complete absence in the latter. The first indication of the action of the drug is commonly shown by more or less restlessness or uneasiness of the animal, and this condition is soon followed by dilation of the pupils, frequent and irregular pulse, rapid and irregular breathing of an abdominal character; and the above symptoms are succeeded (when the dose administered has been large) by others which belong to the paralytic group, and are generally developed in the following order: Weakness in the loins, which appeared more marked in the dogs than in the rabbits, and was manifested by a want of muscular co-ordination—affecting the posterior extremities—drooping or dragging of the same, awkward gait, etc. In the majority of the animals experimented on, the posterior extremities appeared to be affected somewhat sooner than the anterior, although it required only a brief period to produce the same condition in the latter, which has already been described as pertaining to the former. The animals then soon passed into a helpless condition, although they appeared to retain consciousness and remain sensitive to pain, since they winced when injured; and the dogs, so long as they were able to move, even though unable to stand, would wag their tails when called, and give other evidence of recognition. The pulse and respiration were both accelerated and rendered more or less irregular prior to the commencement of the paralytic stage; but when the animal had come fully into this state, an important change took place. The action of the heart now becomes perfectly normal in force and frequency, and remains so until after the cessation of respiration. The respirations, which are abdominal in character, become gradually less frequent, until they finally cease. The cessation of the heart's action did not precede the complete failure of respiration in a single instance during our experiments. The muscular twitchings, which are mentioned, seemed to be closely associated with the initial and convalescent stages of paralysis, and were chiefly dependent on voluntary effort of motion. Moderate doses of the drug commonly produced within half an hour a marked dilatation of the pupils, while the large doses, which proved quickly fatal, caused but little or no dilatation, and were soon followed by a decided contraction of the same, which continued until the animal passed into *articulo mortis*.

The chief indications of danger to the life of a patient after the administration of woorara are found in the contracted pupils, a complete paralysis of the voluntary muscles of the body, as shown by a total inability to move, and complete absence of all muscular twitchings. But unquestionably the most important symptom in these cases, and the one on which the physician must rely with entire confidence is the slow respirations. I have never observed a sudden cessation of the respiration, but, on the contrary; it is gradual, and commonly proceeds with much regularity, thus affording ample warning of danger, and full opportunity for the application of remedial measures.

Having carefully examined the physiological action of this drug, I am now convinced that its medical use is rationally indicated in the treatment of many nervous affections, but more especially in those diseases accompanied by violent convulsive actions, which endanger, directly or indirectly, the life of the patient, inasmuch as this procedure may give to nature the requisite time for the elimination of the *materies morbi* on which the malady depends. A rather cursory examination of the medical literature for the last six years reveals the fact that woorara has been employed in the following diseases with the accompanying results:

	Whole No. of cases.	Recovered.	Improved.	Not Improved.
Rabies	17	4	7	6
Tetanus	23	11	..	12
Epilepsy	80	5	..	75
Catalepsy	1	..	..	1
Chorea	2	..	2	..
Paralysis agitans	1	..	1	..

The above figures are sufficiently encouraging to justify the conclusion that woorara is a most valuable remedial agent. In fact, we may now boldly assert that no medicine has ever been employed in the treatment of rabies which has yielded equally encouraging results; and, furthermore, that the well-established knowledge which we now possess of its physiological action, leads us to expect better success for the future in the management of

these cases. We have the record of twenty-three cases of tetanus treated with this drug. Only two of these were idiopathic, the others being traumatic; and, consequently, we find in these figures most encouraging proof of the curative powers of woorara in this much dreaded disease, which, only a few years since, was regarded as incurable. The results obtained in the treatment of epilepsy by this drug are not flattering, although as good as could be reasonably expected when due consideration has been given to the peculiarly obstinate character of the disease, and the physiological properties of the medicine. In regard to the use of the drug in catalepsy, chorea and paralysis agitans, it only remains to be said that the limited number of cases in which it has been employed affords no adequate opportunity to determine its value in the management of these diseases.

Thus far we have only spoken of the use of this drug in those diseases in which its well known physiological properties seemed to indicate its especial fitness for their management; but, unquestionably, further experimentation with this medicine will put us in possession of important empirical facts, and thereby greatly extend the employment of this powerful remedial agent. The principal obstacle in the way of the employment of this drug arises from the fact that the samples found in the drug market are of variable strength, and, since the remedy is often required for emergencies, the physician has no opportunity to determine the proper dose prior to its administration. This obstacle may be easily overcome if our manufacturing chemists will supply us with the active principle of woorara, which should always be of uniform strength, and consequently at all times available. M. W. Preyer, at the request of Bernard, succeeded in isolating a crystallizable alkaloid, which is undoubtedly the active principle of woorara, and which has received the appropriate name of *curarine*. M. Bernard has proved that curarine is identical in the character of its operation with woorara, but is at least twenty times more powerful. This identity extends even to the difficulty of absorption by the intestinal canal, and consequently renders its introduction into the circulation with the hypodermic syringe a necessity when it is employed in medical practice.

It must now be apparent, that owing to the uncertain strength of the woorara found in the drug market, it is wholly impossible to mention even an approximate dose; and consequently the physician who intends to employ it should, if possible, first determine its relative strength by experiments on animals; or should he be compelled to use it in an emergency, then I would suggest that, in cases of rabies or traumatic tetanus, where promptness in action may save the life of the patient, the first injection should only be one-sixteenth of a grain, but that this dose should be doubled every half hour until its full physiological action is secured or the patient completely relieved. Either cowardice or negligence on the part of the professional attendant, in the treatment of these diseases, ought to be regarded as a crime, and woorara should only be administered in these cases while an intelligent physician is in continuous attendance. There exists a double necessity for a strict adherence to this rule in both these diseases. The first arises from the fact that the life of the patient may depend on promptly securing the full and continuous physiological action of the drug, while its administration at such short intervals requires constant watchfulness on the part of the physician; although its use is unquestionably safer than that of morphia, since a timely resort to artificial respiration is always attended with complete restoration. —B. A. Watson, M. D., in *Virginia Medical Monthly*.

ANALYSIS OF CORN ERGOT OR CORN SMUT, USTILAGO MAIDIS.*—For the past two years corn smut has been used as a substitute for ergot, and varying reports have been received as to its therapeutic value.

It has long been known that cattle frequently die from eating corn-stalks upon which this smut has been known to exist. With a view of determining the constituents of this substance, and its probable medical virtues, the following analysis has been made:

Proximate Analysis of Corn Smut.

Moisture; volatile at 108°-112° C	8.88
Sand	4.01
Ash.	
Soluble in water.	
Chlorine Cl	0.20
Sulphuric acid, SO_3	0.27
Phosphoric acid, P_2O_5	0.71
Alkalies, partly carbonates	2.68
	3.86
Insoluble in water.—Soluble in HCl.	
Lime, CaO	0.07
Magnesia, MgO	0.53
Iron oxide, Fe_2O_3	0.35
Phosphoric acid, P_2O_5	0.25
	1.20
Insoluble in water and acid.	
Silica, SiO_2	0.41
Ether extract.	
Fixed oil	4.20
Volatile amine body	Traces.
Eighty per cent. alcohol extract.	
Soluble in water.	
Precipitated by ammoniacal lead acetate.	
Organic acid, as malic	0.67
Yellow color	0.51
Not precipitated by ammoniacal lead acetate.	
Glucose	1.60
Reddish extractive	4.32
Insoluble in water.	
Albuminoid matter	0.70
Resin and red-brown color	2.04
	9.84
Aqueous extract.	
Albuminoid, coagulated by heat	.70
Gum	.34
Sclerotic acid	5.51
	6.55
Color (yellow) organic acid and extractive	Traces.
Acid extract.	
Starch isomers, by titration	12.87
Alkali and hypochlorite extracts.	
Albuminoids	12.95
Other dissolved substances	32.67
	45.62
Undissolved residue.	
Pure cellulose	2.56
	100.00

The term sclerotic acid is used provisionally; as here determined, this substance was prepared exactly as recommended by Dragendorff for analysis of ergot, and it certainly contained nitrogen. The residue became dark-brown on drying.

It is very probable that among the 32.67 "other dissolved substances" is included a very large proportion, if not all, of the real organic skeleton (corresponding to true cellulose of ordinary plant organs) of the spores. Simple extraction with dilute alkali, even thrice repeated, failed to remove all soluble matters, and the undissolved residue was as black as the original sample.

Labarraque's solution, acting cold, dissolved a considerable amount not removed by alkali, and the remaining well bleached residue had the properties of ordinary cellulose. It is quite likely that it was partly derived from extraneous woody matters in the sample.

Percentage composition of pure ash soluble in water.

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*Report of the United States Commissioner of Agriculture, for 1880, p. 136. From New Remedies, March, 1882.

Chlorine, Cl	3.66	
Sulphuric acid, SO_3	4.64	
Phosphoric acid, P_2O_5	12.98	
Alkalies, partly carbonates	48.99	
		70.57

Insoluble in water—Soluble in HCl.

Lime, CaO	1.28	
Magnesia, MgO	9.69	
Iron oxide, Fe_2O_3	4.57	
Phosphoric acid, P_2O_5	6.40	
		100.00

Insoluble in water and acid.

Silica, SiO_2	7.49
	100.00

Of the constituents which have been separated, the following seem to be the most interesting and the most likely to have medicinal activity:

First, the fixed oil. This oil is of an orange-yellow color, peculiar odor, acrid taste, freely soluble in ether, moderately in alcohol, and is, apparently, a glycerin ether. It appears very similar to the oil of ergot, but is found in corn smut in much smaller amount than in ergot, for, while ergot contains 30 per cent., corn smut contains only about 4.2 per cent.

Second, ether also extracts a volatile substance having a peculiar musty or fish-like odor, and a decided alkaline reaction. The amount extracted from one gram of the sample is equivalent to 0.1 c. c. of one-fifth normal acid.

It will be seen that the amount is very small. Upon distilling 50 grams of corn smut, with water, in presence of 5 grams of barium hydrate, a strongly-smelling alkaline distillate was obtained, which neutralized 4 c. c. (approximately) of one-fifth normal acid.

Upon adding a slight excess of hydrochloric acid and evaporating the aqueous distillate to dryness, a small, nearly white residue was obtained. When this was treated with absolute alcohol, a small portion remained undissolved. The filtrate, upon evaporation, weighed 0.0256 gram.

The amount being very small, it was impossible to identify the substance with certainty.

The aqueous solution, when treated with platinic chloride and considerably concentrated, gave feathery crystals totally unlike the octahedral crystals formed by ammonium chloride; hence ammonia was not present.

Another portion of this aqueous solution of hydrochlorate, when treated with the usual alkaloid reagents, gave no precipitates; hence the substance was neither an alkaloid, nor was it trimethylamine.

Third, 80 per cent. alcohol extracts 9.84 per cent. of organic matter. The solution, when evaporated and treated with water, is about three-fourths dissolved by cold water, to form an orange-yellow solution, which has an acid reaction, and, when evaporated, a peculiar bland taste. It possesses no very characteristic properties. It contains no tannin, and, in fact, seems to be rather indifferent in its chemical properties.

The organic acid forms a soluble barium salt, which yields barium sulphate equivalent to 0.67 per cent. of malic acid.

The portion insoluble in water consists of an albuminoid substance, a light-yellow resin, and a red-brown color. The two latter are soluble in ammonia, and the resin is precipitated by a slight excess of hydrochloric acid.

If this alcohol extract be treated with water, and allowed to stand for several days, it decomposes.

Fourth, after the use of ether and alcohol, cold water extracts 6:55 per cent.

The solution has a light-yellow color, a faint acid reaction, and upon evaporation, leaves a red-brown hygroscopic residue.

During evaporation, a small amount of albuminous matter separates. If this concentrated solution be treated with an equal volume of 90 per cent. alcohol, this albuminous matter separates, together with a small amount of gum. If this precipitate is separated by filtration, and the filtrate again concentrated to a small bulk and treated with a large amount of 90 per cent. alcohol, a flocculent yellowish-white precipitate is produced, which amounts to 5.5 per cent. of the corn smut taken. If this precipitate be removed by filtration, and the filtrate concentrated, there will be found a slight residue of yellow color and acid reaction.

The amount of acid is too small for estimation, but it appears to be oxalic acid. The large precipitate caused by excess of alcohol resembles sclerotic acid found by Dragendorff in ergot.

When dried, it is red-brown in color. It is tasteless, or nearly so, and contains nitrogen, and when ignited, leaves a considerable ash. It is intended to investigate this further.

Fifth, after treatment with ether, alcohol and water, the insoluble residue was boiled for several hours with about 300 c. c. of water to which had been added 5 c. c. of concentrated sulphuric acid.

The acid liquid thus formed had a yellow color, and reduced Fehling's solution in proportion equivalent to 12.87 per cent. of starch. Corn smut contains no true organized starch; hence it is believed that these starch isomers may prove to be a portion of the easily decomposable cellulose of the corn smut itself.

Sixth, the residue still undissolved by the acid had a black color, and was considerable in amount, apparently equalling more than half the weight of the corn smut originally used. It was treated with a solution containing 5 grams of sodium hydrate in 300 c. c. of water. A heat below 100° C. was applied for six hours, and then the dark, black liquid was filtered, and left a black residue. This residue was well washed with water, and treated for two days with 300 c. c. of Labarraque's solution of sodium hypochlorite. By this means, the black residue was perfectly bleached and very greatly diminished in amount. The dark liquid obtained by the use of sodium hydrate, when treated with excess of hydrochloric acid, gave a dark-brown precipitate, which was not further examined.

It is believed that the portion of the corn smut which corresponds to the true fibre of an ordinary plant was dissolved entirely or in greater part by the solutions of acid of soda and of sodium hypochlorite which were used, and that the residue of cellulose which remained was largely derived from the extraneous woody matters present in the original sample of corn smut.

The substances which seem most likely to have medicinal effect are the fixed oil, the amine-like volatile substance extracted by ether, and the so-called sclerotic acid extracted by water after the use of alcohol. The investigation of the questions would be of considerable interest, and it is hoped that reliable data will soon be furnished.

THE VALUE OF EUCALYPTUS AS A TOPICAL REMEDY.—Notwithstanding the many articles which have appeared in our medical journals from time to time eulogizing eucalyptus as a systemic remedy of decided value, I have seen very little mention of its efficiency as a topical agent, and from a not very limited experience with the drug as a local remedy, I am forced to believe that its topical application to various diseases and localized morbid conditions of the body, renders it one of the most valuable of our new remedies, and I desire here to divert the attention of the medical profession more especially to this mode of employing it, and if it shall accomplish in the hands of others what it has seemed to do in mind, I am sure they will be well satisfied with its topical virtues.

I desire to state briefly that it has seemed to be of marked value in its local action, in anthrax (after thorough incisions); in localized gangrene (including the senile form); in erysipelas; in burns;

in some forms of eczema; in follicular tonsilitis; in tonsilitis in ulcerated condition; in aphtha; in cancrum oris; in vesical catarrh (by injection); in gonorrhœa; in ulceration of the os uteri; in leucorrhœa (in all its forms); in indolent or ill-conditioned ulcers on surface of body or limbs; in ulceration and softening of the gums, etc.

I have employed it more or less in these various morbid conditions for the last four or five years, testing it often on its own merits without combination with other agents (excepting in some instances in glycerine or demulcents for injection), and have very frequently employed it in form of fluid extract (with C. H. brush), undiluted, and often without any constitutional remedy being given while employing it topically, and it has seldom failed to yield me decided curative results.

In its local action it appears to be tonic, alterative, anodyne, detergent, antiseptic and probably astringent.

Have no experience with its concentrated principle, eucalyptol, and very little with any of its preparations, as a systemic remedy, but the local effect of the fluid extract, on morbid conditions of the mucous and cutaneous surfaces, has been in many cases most satisfactory to me.—B. G. Slagle, M. D., in *Northwestern Lancet*, May, 1882.

The Tonga Plant.—It may fairly be taken for granted that any new information concerning this, of late, much advertised remedy will possess an interest to pharmacists. In The Druggist (vol. III., p. 197) will be found a letter by Mrs. Clendenning to an English paper, stating, on the authority of Baron Von Muller, that the remedy sold under this name is a mixture composed partly of Raphidophora vitiensis and partly of Premna taitensis. This statement is concurred in by Mr. E. L. Holmes, of the Kew gardens. It is interesting to find, says the writer, that one of these plants, and the one to which the virtues of Tonga are most probably due, has been in cultivation in this country (England) for the last four or five years.

The plant in question belongs to a Mr. Bull, who received it from the Fiji Islands by the way of the Botanic Garden at Sidney. It is an ornamental climber of rapid growth, with old, dark green pinnatesect leaves in the adult stage, and large inflorescences. Besides its ornamental character it is specially interesting for the manner in which the plant changes in its appearance as it developes from its juvenile stage with small entire leaves, as well as for its medicinal qualities, which appear to have long been known to the natives of the countries which the plant inhabits. The natives of Java and Baly cook the terminal buds of the flowering stems a little over a fire, bruise them and squeeze out the juice, which is given to lean and feeble horses and cows, and it is said to cure them and bring them to a fat and healthy condition. The internal substance is pounded and used in the form of a poultice, as a remedy for sprains. It is also chewed as a dentifrice with pinanga and chalk. Cows feed upon the leaves, especially during the hot months, when the fields are destitute of grass, and appear to be very fond of them, and also of the stems. Altogether, the Tonga plant seems to be rather a useful one, all the more so considering the order to which it belongs, whose members are more noted for their doubtful and poisonous qualities than for their good and useful ones. The statement that it is very widely distributed, inhabiting Java, Summatra, Baly, Ambrosia, Timor, Fiji Islands and tropical Australia, may be of interest to manufacturing pharmacists who anticipate a large sale of fluid Tonga.

Oxydendron Arboreum, (Sour Wood).—John W. Davis, Lewisburg, Ky., writes to the Cin. E. M. J. an interesting article giving the profession a concise and practical description, botanically and medicinally, of this tree, which grows from ten to thirty feet high, throughout the South. The blossoms appear in June, are white and set in a tassel at the end of the branches. Leaves about six inches long and two wide. The bark, leaves and wood possess some taste and odor—hence the common name, sour wood.

Mr. Davis says the leaves (and, as we learn, the bark also), is one of the most reliable remedies in dropsies of nearly all kinds. He narrates several formidable cases of dropsy, involving the thorax and abdomen, and that had been long standing; had resisted all other treatment, and no other termination but death was looked for in nearly all these cases, but which were eventually cured by taking a solid extract of the leaves by boiling down a strong decoction, and rolling this into pills of ordinary size. The order of taking these pills in one desperate case of dropsy that involved both chest and abdomen, was as follows: One pill before breakfast, two pills at noon, three at night, and so on, increasing one pill at each dose, until eighteen pills at a dose was reached. Then reverse the dose, take seventeen, then sixteen, next fifteen, and so on, decreasing one pill at each dose, till one was reached, then quit. The patient said when he reached eighteen pills at a dose he could not keep his bed more than thirty minutes at a time; he would have to get up and discharge his urine. The swelling was rapidly leaving his chest and abdomen, and by the time he came to take one pill, he was nothing but skin and bones; felt perfectly well and had a good appetite. The cure was perfect, it being thirty years before he had any more sickness of any kind.

Though the report comes from a non-professional, the evidence is clear and to the point, the writer evidently being an intelligent observer and candid narrator. He refers to six other cases of dropsy cured by this remedy.

We recollect a case of cordiac dropsy of the chest and belly that was diagnosed by several first-class allopaths of St. Louis, and was said to be incurable, but which got well eventually under the use of apocynum cannabium in small doses. This leads us to presume that some of the cures effected by oxydendron, as reported by Mr. Davis, may have been in cases of cardiac origin. The subject is worth further investigation.

Resorcine and its Employment in Therapeutics.—MM. Dujardin-Beaumetz and Callias have made an extended study of this substance and its use, in the Bull. Gén. de Thérapeutique.

This substance was discovered by two Viennese chemists, Hlassiwetz and Barth, in 1860, among the products of fusion obtained by treating galbanum with potash; later on it was obtained from gum ammoniac and assafœtida.

Resorcine is very soluble in water, has a feeble odor, somewhat resembling that of carbolic and benzoic acid, and has the same properties as carbolic acid, a one per cent. solution acting as an anti-ferment, and a one and one-half per cent. solution as an antiputrid.

The authors are of opinion that this antiseptic, on account of its extreme solubility, its very feeble odor, its toxic effects being slight as compared with carbolic acid, it being also much less caustic, should be preferred to this latter in surgical practice.—*Med. and Surg. Reporter*, April 1, 1882.